COLLEGE CATALOG 2013-2014

The provisions and requirements stated in this Catalog (and its electronic counter-part at www.etown.edu) are not to be regarded as an irrevocable contract between Elizabethtown College and the student. The College reserves the right to change any provision or requirement, rules, regulations and procedures, whether published in this Catalog, the Student Handbook or other official media.

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Elizabethtown College, located in historic Lancaster County, Pennsylvania, is a selective, private, residential, co-educational institution. Elizabethtown offers 44 majors and 93 minors and concentrations, which lead to degrees in liberal arts, fine and performing arts, science and engineering, business, health and social services, and education.

The College is accredited by the Middle States Association of Colleges and Schools. In addition, Elizabethtown has specialized accreditations from ABET; the Accreditation Council for Occupational Therapy Education of the American Occupational Therapy Association; the American Chemical Society Committee on Professional Training; the Accreditation Council for Business Schools and Programs; the Council on Social Work Education; the National Accrediting Agency for Clinical Laboratory Sciences; and the National Association of Schools of Music.

President's Message

For more than a century, Elizabethtown College has been transforming lives, helping our students explore and develop big ideas and attain their greatest possibilities for service and leadership.

At Elizabethtown, we commit to academic excellence, and we believe learning is most noble when used to benefit others. Our offerings, both in and out of the classroom, encourage students to consider life's most significant questions. By engaging with the deepest issues of meaning, purpose, values and ethics, our students come to see their lives as subjects for reflection and develop the tools to fashion a large purpose for themselves. Shaping Elizabethtown's educational experience are four key attributes:

- Our relationship-centered learning community
- A strong international and cross-cultural perspective
- Experiential learning opportunities that complement classroom instruction
- Programs and experiences that prepare students for purposeful lives and meaningful work

Together, these attributes provide a framework for blending the historic goals of higher education with its contemporary realities, and they express central features of our institutional mission.

This Catalog bears witness to the impressive breadth and depth of our programs—all of which support our students as they find opportunities to become a bigger part of the world. I encourage you to look at our offerings and consider how you want to challenge yourself here at Elizabethtown.

Carl J. Strikwerda
President, Elizabethtown College

How to Reach Us

Mailing Address

Elizabethtown College
One Alpha Drive
Elizabethtown, PA 17022-2298

Questions about Admissions

Office of Admissions
717-361-1400
admissions@etown.edu
www.etown.edu/admissions

Questions about this Catalog

Office of Registration and Records
717-361-1409
regandrec@etown.edu
http://www.etown.edu/registration

Questions about Adult Education

Elizabethtown College School of Continuing and Professional Studies
717-361-1411
www.etowndegrees.com

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Elizabethtown College complies with the requirements of Title VII of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, and all other applicable federal, state, and local statutes, ordinances and regulations. Elizabethtown College does not discriminate on the basis of gender, race, color, religion, age, disability, veteran status, national or ethnic origin, ancestry, sexual orientation, possession of a general education development certificate as compared to a high school diploma, or any other legally protected status in hiring and promotion in the administration of its educational policies, scholarship and loan programs and athletic or other College-administered programs, except as such conditions may constitute bona fide occupational or assignment qualifications. Discriminatory acts of any kind are strictly forbidden. In keeping with the historical values of Elizabethtown College, the College endeavors to treat all employees with dignity, justice, and fairness.

Elizabethtown College was founded in 1899 by leaders of the Church of the Brethren. Today, the College is governed by an independent Board of Trustees and affirms a continuing covenantal relationship to the Church of the Brethren. Elizabethtown College is accredited by the Middle States Association of Colleges and Secondary Schools.

Academics at Elizabethtown College

Overview and Accreditations

Elizabethtown College is a selective, private, residential, co-educational college located on 220 acres in historic Lancaster County, Pennsylvania. The campus is near Harrisburg, Lancaster and Philadelphia, which are rich with cultural, athletic and social opportunities.

Elizabethtown offers 44 majors and 93 minors and concentrations, which lead to degrees in liberal arts, fine and performing arts, science and engineering, business, health and social services, and education. This array of programs allows our students to prepare for a broad spectrum of graduate programs and careers. The College is accredited by the Middle States Association of Colleges and Schools. In addition, Elizabethtown has specialized accreditations from ABET; the Accreditation Council for Occupational Therapy Education of the American Occupational Therapy Association; the American Chemical Society Committee on Professional Training; the Accreditation Council for Business Schools and Programs; the Council on Social Work Education; the National Accrediting Agency for Clinical Laboratory Sciences; and the National Association of Schools of Music.

Currently, almost 1,900 full-time students are enrolled at the College. These men and women come from more than half of the states in this country and 20 other nations. Educating our students are 130 full-time faculty members whose qualifications, achievements and dedication are to be admired. In addition, more than 500 adult learners also are pursuing a degree through Elizabethtown College School of Continuing and Professional Studies.

Mission

Molded by a commitment to educate for service, Elizabethtown College is a community of learners dedicated to educating students intellectually, socially, aesthetically and ethically for lives of service and leadership as citizens of the world.

As a comprehensive institution, the College offers academic programs in the liberal arts, sciences and professional studies. Combining classroom instruction with experiential learning, these programs advance independent thought, personal integrity and social responsibility as the foundations for a life of learning.

Founded by members of the Church of the Brethren, the College believes that learning is most noble when used to benefit others and affirms the values of peace, nonviolence, human dignity and social justice.

Educational Philosophy

Elizabethtown College engages students in a dynamic, integrated learning process that blends the liberal arts and professional studies. Challenged to take responsibility for their education, students at Elizabethtown embark on a journey of self-transformation that involves intellectual, social and personal growth.

The College is committed to educating the whole person within a relationship-centered learning community, where common goals are achieved through engagement in a rigorous academic curriculum and thoughtful co-curricular experiences. Students are encouraged to develop and challenge their own values, while seeking to understand and appreciate alternative perspectives. Embedded in an ever-changing global context, the College promotes the developmental, collaborative and complex nature of learning.

In seeking to "educate for service," Elizabethtown College believes that students can perform no greater service than they do when sharing knowledge and creativity with others. Opportunities to strengthen scholarship and leadership extend beyond the classroom, and students learn actively through practical experiences and civic engagement.

The impact of an Elizabethtown College education is long lasting and far-reaching because it is deeply transformative. Students acquire new habits of mind and heart – some in the course of the undergraduate experience, others as students grow beyond college.

Learning Goals

At Elizabethtown College, students are inspired and challenged to:

- assume responsibility for their intellectual development, personal growth and well-being. Students will learn to sharpen their curiosity and become aware of the capabilities, strategies and resources needed to learn.
- reason, analyze and engage in critical thinking. Students will make, systematically evaluate, and, if necessary, refute arguments and claims – both their own and those of others.
- demonstrate thoughtful and articulate communication by applying knowledge in a variety of contexts, including writing, speaking, listening and interpretation.
- understand the creative process and its role in human expression, and cultivate the ability to make informed aesthetic judgments.
- navigate diverse cultural worldviews and perspectives, with the realization that differing frames of reference influence analysis, communication and behavior.
- make reflective ethical decisions and act with integrity to seek just outcomes with relationships, communities and society.
- apply and integrate different strands of learning and comprehend interconnections in the process of gaining knowledge and experience.
- identify and cultivate a sense of purpose that inspires a commitment to meaningful work in service to society.

The Qualities of Our Education

Our educational experience blends a high standard of scholarship with four signature attributes, which include commitments to educate our students in a relationship-centered learning community, to foster in our students international and cross-cultural perspectives, to complement classroom instruction with experiential-learning opportunities, and to prepare our students for purposeful lives and meaningful work.

Relationship-Centered Learning

Our educational programs engage students in ways that capture their most profound attention, confront them with learning experiences that are compelling, and call out from them responses that reach beyond what even they thought possible. In this learning community, our faculty members and other employees demonstrate their passion

for their subjects and for continued learning so that our students see how compellingdeep engagement is. Students receive personal attention, as all employees commit to expressing sincere and genuine interest in the educational success of our students. Our College's classes deliberately are kept small to support our students' individual needs and challenge them to grow.

International and Cross-Cultural Perspectives

Elizabethtown offers a globalized curriculum and co-curriculum. Programs of study and development help students understand and effectively engage with other cultures and the globalization of life and work. Our staff includes faculty members and other employees who are citizens of countries from around the world, who speak a multitude of languages, and who have had myriad study and residential experiences on other continents. Students study alongside classmates from other cultures. Additionally, they encounter our international world when they visit, study in or live in cities as diverse as Harrisburg, Philadelphia, London, Beijing and Quito.

Real World Learning

An important component of Elizabethtown College Real-world Learning is the high impact practices which supplement classroom learning. Real-world Learning is so significant that, completing at least two of these five Signature Learning Experiences (SLE) is a graduation requirement for all Elizabethtown College students. The student's academic adviser will assist in choosing two of five SLEs:

Supervised Research

Investigate, test and study big questions under the supervision of a faculty mentor.

Internships, Field Placements, Practicums

Students become immersed in a professional setting in their chosen field of study or career interest.

Capstone Course, Project or Development Portfolio

Students are encouraged to integrate, apply and demonstrate what they've learned through a project, exhibit, performance or showcase.

Community-Based Learning

Students engage in service projects in communities locally and beyond that are related to their field of study.

Cross-Cultural Experience

Students explore different cultures by living and studying in a different culture either abroad or in the U.S.

All students are encouraged to discuss these opportunities with their peer mentors, first-year seminar adviser and professors and explore the College website to see how other students have personalized a Real-world Learning experience that is just right for them.

Purposeful Life Work

In both the curriculum and co-curriculum, the College's educational program fosters an understanding of education for a life of purpose based on a holistic model of student development that integrates career development; reflection on vocation, meaning and life; and a commitment to civic engagement. As a result, graduates of Elizabethtown are prepared to make the world a better place. They do so, in part, by living in ways that reflect their individual commitments, respond to the needs of others, and value personal and ethical integrity.

History

Elizabethtown College was established by representatives of the Church of the Brethren on September 23, 1899. As outlined in our charter, the purpose of the College was "to give such harmonious development to the physical, mental and moral powers of both sexes as will best fit them for the duties of life." On November 13, 1900, classes began for six students in the A. Heisey Building, located in downtown Elizabethtown.

During the early years, the institution operated as an academy, offering a limited curriculum. In 1921, the Pennsylvania Department of Public Instruction accredited the College and authorized it to grant bachelor's degrees in the arts and sciences. In May 1948, Elizabethtown was accredited by the Middle States Association of Colleges and Schools.

Since the late 1940s, Elizabethtown has grown significantly – in our student and faculty population, in our academic and co-curricular offerings, and in the number and quality of our facilities.

Our Campus

To provide the superior classrooms and cutting-edge technology necessary to prepare our students for their future, the College has significantly enhanced our facilities over the past several years. Today, our campus is a beautiful marriage of stately 1900s architecture – symbolic of the College's century-old heritage – and state-of-the-art academic and co-curricular buildings.

Located at the heart of campus, the Baugher Student Center is the hub of student activity at Elizabethtown. With the Brossman Commons addition, the Center offers comprehensive academic and career support through its Center for Student Success. Students who wish to get involved with activities or religious life on campus can visit the Center for Student Involvement. Additionally, the facility includes our Tempest Theatre, home to the College's theatrical performances; the College Store; dining facilities; and an on-campus post office.

At the edge of campus sits Leffler Chapel and Performance Center, a beautiful venue for showcasing the talents of world-class performers and speakers who are hosted by Elizabethtown College. Highlighting the year are the annual Ware Lecture on Peacemaking, which has presented speakers such as former President of Ireland Mary Robinson and Nobel Peace Prize winners F.W. de Klerk and Jody Williams, and performances by the College's talented musical ensembles. Also, through our partnership with Gretna Music, Elizabethtown hosts music performers of international renown.

The James B. Hoover Center for Business opened in fall 2006 as the new home for the College's perennially strong business program. In these modern facilities, our business faculty members create a learning environment in which students gain the knowledge and experience necessary to handle real-world business issues with expertise and integrity. This building also houses the Elizabethtown College School of Continuing and Professional Studies, which provides a variety of programs for adult learners, and the S. Dale High Center for Family Business, which provides support to area family businesses.

Completed in fall 2008, the Masters Center for Science, Mathematics and Engineering provides the classrooms, modern laboratories and research facilities that are essential for a 21st-century science education. It features state-of-the-art learning centers and facilities, including the Lyet Wing for Biological Sciences, the Masters Mineral Gallery and the Occupational Therapy Kid Zone.

The Jay Walk athletics complex, which features offices for the College's coaching staff and a Hall of Fame area, opened in January 2009. The building highlights a collection of outstanding athletic facilities, including a softball field; an outdoor track and field facility; Wolf Field, our artificial turf surface for lacrosse and field hockey; and the Kevin Scott Boyd Memorial Stadium for baseball.

In fall 2010, the College dedicated the Bowers Writers House at 840 College Hill Lane in Elizabethtown, which is within a short walking distance from the campus. An interdisciplinary venue for presentation, performance, expression and study, the Bowers Writers House supports a culture of creative curiosity and fosters a sense of excitement and enthusiasm for intellectual diversity. Bowers Writers House programs---from dramatic readings to interactive panels to musical performances---offer a dynamic variety of enjoyable and informative experiences.

Admission to the College

Admission Guidelines

The Elizabethtown College Office of Admissions seeks qualified students from a wide range of geographic, socioeconomic, ethnic, religious and cultural backgrounds. While the ability to meet the challenges presented by Elizabethtown's curriculum is the primary consideration, all aspects of the applicant's profile can and will be considered.

Elizabethtown College emphasizes personal attention throughout the admissions process, and the Office of Admissions strives to assure the proper "fit" for both the College and the student. As such, Elizabethtown encourages applications from students who will contribute to and benefit from the College's academic, co-curricular, service and cultural programs. Each application is carefully reviewed to determine the student's seriousness of scholarship, range of talents, and depth of character using the following guidelines:

- Applicants must graduate from an accredited secondary school or a state Department of Education-approved program with at least four years of English, three years of mathematics, and two years each of laboratory sciences, social studies and foreign languages.
- Accompanying recommendations from a school guidance counselor and an academic course teacher must attest to the academic ability, potential and personal character of the applicant.
- Unless they qualify for the Standardized Testing Waiver, applicants must submit the results of standardized tests such as the Scholastic Aptitude Test (SAT) of the College Board or the American College Testing (ACT) Assessment to provide a measure of aptitude for academic success in college work.
- Students who rank in the top 10 percent of their high school class are able to waive their standardized test scores from Elizabethtown's review for admission and merit-based scholarship consideration. If a student attends a high school that does not rank, a grade point average of 3.50 or better (on a 4.00 scale) will allow that student to waive his/her standardized test scores. Students applying to the Elizabethtown College Honors Program may not waive their standardized test scores.
- The application form must include references to participation in activities, arts, service, athletics and other interests beyond the classroom, which indicate the talents, leadership and abilities the student will bring to the Elizabethtown community.
- A writing sample – essay, personal statement or graded paper – must be provided as an example of the student's ability to clearly communicate his or her thoughts.
- A campus visit is strongly recommended.
- An interview is required for students applying to the Elizabethtown College Honors Program, Law Early Admission Program, and the occupational therapy program and is strongly recommended for all other applicants.

The following lists provide some insight into what Elizabethtown considers in the areas of academic, co-curricular and social fit:

Academic	**Co-Curricular**	**Social**
Quality of curriculum	Athletic ability	Integrity
SAT/ACT scores	Musical ability	Persistence
Grade point average	Dramatic ability	Seriousness of attitude
Rank in class	Service and leadership	Appreciation for the College
Letters of recommendation	Work experience	Interest in Elizabethtown
Academic awards/honors	Activity involvement	Work ethic

Requests for applications and other information regarding admissions should be directed to:

Office of Admissions
Elizabethtown College
One Alpha Drive
Elizabethtown, PA 17022-2298
(717) 361-1400
admissions@etown.edu
www.etown.edu

The Application Process

Elizabethtown College admits students on a "rolling" basis with an application deadline of March 1. Most prospective students apply before January of their senior year. The Office of Admissions begins to notify students of acceptance decisions – usually beginning in mid-October – and continues to admit students until late spring. Students who are offered admission to the College must respond to the offer by May 1 for the following fall semester.

An application is considered complete when the following items are submitted for review:

Elizabethtown College Application for Admission. The use of the online application is encouraged and can be accessed on the College website (www.etown.edu). The Common Application also is accepted. The $30 application fee payable to Elizabethtown College is waived for students who apply online or who interview on campus.

School Report and Recommendations. Applicants should take the application's school report form to the appropriate high school office to be filled out and submitted. Additionally, at least one teacher must complete a letter of recommendation on behalf of the applicant. Applicants may submit additional recommendations from other individuals who know him/her well, such as a coach, musical director, clergy member or employer.

Official High School Transcript. All applicants must submit an official high school transcript. All applicants should submit mid-year grades as they become available.

Standardized Testing Results. Unless they qualify for the Standardized Testing Waiver, applicants are required to submit scores from either the SAT I or ACT. Official scores should be sent directly to Elizabethtown College (SAT code #2225 and ACT code #3568).

Writing Sample. All applicants must submit an example of their writing. They may choose to submit a personal statement, a graded paper or an essay on one of the topics suggested in the application.

International Applicants

In addition to the previously stated requirements, international applicants also must submit the following items:

The International Student Visa and Financial Aid Application. Contact the Office of Admissions to request this form.

Personal Statement. A 250-word personal statement discussing their choice to apply to Elizabethtown College.

TOEFL Results. The official results of the Test of English as a Foreign Language (TOEFL).

Transfer Applicants

Transfer applicants in good social and academic standing at an accredited college, university or two-year institution are encouraged to apply. Transfer students are accepted for both the fall and spring semesters.

All transfer applicants must submit the transfer student section of the application. In lieu of the school report, transfer applicants should submit a second letter of recommendation from a professor, teacher or employer. Additionally, all transfer applicants must submit a high school transcript and official transcripts from all previous college work. Transfer applicants who have graduated from high school within the past five years also must submit standardized test scores.

All potential transfer credits – up to 64 from a two-year institution – are evaluated by the Office of Registration and Records to determine how the credits will transfer to Elizabethtown College.

Special Application Requirements

Because of limited and selective enrollment opportunities, applicants to some of Elizabethtown's programs are encouraged to submit an application earlier than the normal deadline of March 1. Those programs, with their suggested application deadlines, are as follows:

Occupational Therapy Program	December 15
Pre-Med Primary Care Program	December 15
Doctor of Physical Therapy Program	December 15
Law Early Admission Program	December 15
Master of Science in Molecular Biology Program	December 15
Elizabethtown College Honors Program	January 15
International Business	March 1

Students considering a degree in music, music therapy or music education must complete an audition and are encouraged to contact the Department of Fine and Performing Arts at (717) 361-1212 to learn more. Audition forms are available online through the Department's website (www.etown.edu/FAPA).

Personal Interviews and Campus Visitations

A personal interview with a member of the Admissions staff is strongly encouraged for all prospective students. It is suggested that prospective students plan to interview prior to January 1 of their senior year. Campus interviews and tours are available throughout the year. The interview typically lasts between 45 minutes and one hour, and the tour can take place prior to or immediately following the interview. Individual appointments are scheduled between 9 a.m. and 3 p.m., Monday through Friday. Morning appointments also are available on select Saturdays in the fall. Simply contact the Office of Admissions at (717) 361-1400 to schedule a visit.

Many on-campus programs are available throughout the year. Contact the Office of Admissions or visit the College's website (www.etown.edu) for the dates of Open Houses and other specialized on-campus programs.

Advanced Placement

Elizabethtown College participates in the Advanced Placement (AP) program of the College Board. Depending upon approval of the Department concerned, the College grants advanced placement credit to students who score four or better on the College Board's AP examinations. Please visit the Office of Registration and Records website at www.etown.edu/registration for our current AP credit policy. Credit through the International Baccalaureate Program may be granted for scores of five or six on the higher-level examinations, depending upon the Department concerned. (See Academic Policies for more information.)

Transfer of Dual Enrollment Credits

Dual Enrollment refers to the practice of a student being enrolled at two schools simultaneously, as may occur when an advanced high school student registers to take a course from a college or university. Elizabethtown College has adopted specific rules to define the conditions under which this type of course may transfer to Elizabethtown College. Students can transfer courses from accredited institutions that are judged by the Registrar and the appropriate Department (in the case of courses for a major/minor) to be high quality, involve active delivery methods (ongoing exchange of ideas with an instructor) and are consistent with the mission and program goals of Elizabethtown College. No online courses that are independent study or correspondence can be transferred. In order for incoming students to be awarded credit for a course taken during high school (whether taken as "dual-enrollment" credits or as unique credits during high school), the course must have been taken at the credit-granting institution and meet the other criteria for transfer of courses. It is recommended that students request the credit-granting institution include a cover letter with their transcript verifying the course completed adheres to our policy for the Transfer of Dual Enrollment Credits.

For further information, see www.etown.edu/registration/dual.

Non-Degree Students

Students who are not candidates for a degree but who wish to enroll in one or more courses should complete the College's application for admission. Non-degree applicants should arrange for an admissions interview to discuss course selection and special application requirements.

Early-Admission Students

Superior high school students may accelerate their higher education by beginning their college work immediately after completion of their junior year. Students who are admitted enter the College as a regular first-year student. When they successfully complete their first year, they receive their high school diploma in addition to the college credits earned. This program has the cooperation and support of the Pennsylvania Department of Education.

In addition to the fundamental requirement that early-admission applicants must have completed their 11th year in an accredited curriculum, they must exhibit the mental ability, scholastic achievement, social maturity and personal motivation to adjust to the academic and co-curricular programs of the College. Following enrollment, early-admission students receive close academic advising by selected faculty members.

Early admission to Elizabethtown College after careful, individualized screening is based on the following:

> **Class Rank and Academic Aptitude.** To be considered, students must rank among the top of their high school class and achieve a superior result in the SAT.

Recommendations. Written by the student's high school principal, guidance counselor and teachers, recommendations must indicate the student's suitability for early admission.

Parental, High School and Elizabethtown College Support. The written approval of the student's parents, high school principal and guidance counselor is mandatory before acceptance. Included in the approval is the assurance of a high school diploma upon successful completion of the first year at Elizabethtown. The selection process also requires an interview with the Office of Admissions.

Tuition and Financial Aid

Overview

Elizabethtown College offers students an excellent and affordable educational experience. Not only is Elizabethtown one of the top-rated colleges in the North, we also are rated as one of the region's best values.

We understand, though, that students and their families may have some difficulty meeting the full cost of a college education without some assistance. For all who are accepted, Elizabethtown helps to make private education affordable through merit-based scholarships and need-based financial aid.

Eighty-five percent of our students receive some financial assistance. Scholarships – which could be as much as one-half of the total cost of tuition – are awarded to more than half of our incoming first-year students based on their academic and co-curricular achievement. Additionally, every current and prospective student is assigned a personal financial aid counselor who will work with that student and his or her family to determine ability to qualify for need-based financial aid from the College and from state and federal agencies.

Tuition and Fee Information – 2013-2014

Full-time students – those who are taking 12 to 18 credit-hours per semester will pay a comprehensive annual fee. Students who take fewer than 12 credit-hours are considered part time and will pay per credit-hour based on the type of course in which they are enrolled. Course credits, internships, directed and independent studies, tutorials, audit courses and private music lessons are combined to determine the student's status as part time, full time or full time with overload (for those who are taking credits in excess of 18 per semester).

Full-Time Students

Comprehensive Fees

	Annual Rate	Resident	Independent Living Units	Commuter/ Off-Campus
Tuition	$38,200	X	X	X
Room – Traditional	$4,650	X		
Room – Ind. Living Unit	$5,450		X	
Board	$4,750	X		
Comprehensive Fee		$47,600	$43,650	$38,200

Elizabethtown College's full-time students have access to campus facilities and programs. Included in the comprehensive fee is the use of the High Library, Baugher Student Center, Body Shop, gymnasium and athletic fields. Full-time students also receive free admission to all regular season, on-campus athletic events and most cultural activities offered by the College. Additionally, they receive a subscription to the Etownian, the student-run newspaper.

Partial meal plans are available to students residing in Independent Living Units and to non-residential students for an additional cost. Please contact the Business Office at (717) 361-1417 for details.

Other Fees

By May 1, all applicants must send a non-refundable deposit of $200 to the Office of Admissions. This deposit will be held as a security deposit. All full-time students are required to maintain a $200 security deposit on account.

Full-time students may carry up to 18 credits per semester. A cumulative grade point average of 3.20 is required to carry more than 18 credits, with the maximum allowed credit load being 20 credits. The excess credit(s) will be invoiced at the current part-time, daytime course rate of $925 per credit-hour.

Part-Time Students

Daytime Courses

Tuition per credit-hour	$925
Audit per credit-hour	$310

2013-2014 SCPS Evening and Summer Courses

Tuition per credit-hour	$525
Audit per credit-hour	$175

All Students – Miscellaneous Charges

Challenge Testing

For Credit	$120
For Placement/Waiver	$ 85

In addition, 50 percent of the appropriate part-time tuition rate in effect at the time the test is administered is charged for academic credits awarded as a result of performance on the challenge tests.

Administrative Fee

Title IV Return of Funds	$100
Approved Off-Campus Study/Semester	$200

Late Fee	$ 50

Late fees are assessed for occurrences such as late registration, late course changes and late payment of fees. For additional details, please see the information on Tuition Payment Policy.

Surcharges

Directed Study – per credit-hour	$100
Tutorial – per credit-hour	$150

Transcripts	Free-of-Charge

No transcripts of records will be furnished to anyone whose account is not paid in full.

Tuition Payment Policy

All charges are due on or before the due date for each semester. Checks should be made payable to Elizabethtown College.

Full-time students are sent a bill in July and December for one-half of the annual comprehensive fee. All confirmed financial aid is listed on the bill. Students should compare the bill with their latest financial aid award letter and deduct from their bill any aid not listed, excluding Federal Work-Study (FWS).

Elizabethtown College does not accept direct monthly installments or deferred payments for tuition. However, certain third-party tuition plans are accepted. For more information, please contact the Financial Aid Office at (717) 361-1404 or the Business Office at (717) 361-1417.

All amounts not received by the due date are subject to a one-time late payment fee of $50 and monthly interest at a rate of 1.5 percent per month, which is 18 percent per year. Loan funds – such as Federal Direct Stafford Loans, Federal Direct PLUS Loans, private loans, etc. – or any other sources of financial aid not received by the due date also are subject to a late charge and interest. In order to help ensure timely receipt, all loans should be applied for prior to July 1.

Financial Aid

Elizabethtown College's Financial Aid Office assists enrolled and prospective students in finding the financial means to allow them to fully participate in the educational experience at Elizabethtown College. Services include providing current information and resources, budgeting assistance, debt management advice and suggestions for financing a college education. The office is open from 8 a.m. until 4:30 p.m., Monday through Friday. It is located on the first floor of Zug Memorial Hall.

Students interested in need-based financial aid must complete the Free Application for Federal Student Aid (FAFSA) and the Elizabethtown College Need-Based Financial Aid Application. Current federal income tax returns and W-2 forms also are required to complete the process. It is strongly recommended that students complete the FAFSA electronically at www.fafsa.ed.gov. Elizabethtown College's Title IV code is 003262. Applicants should apply for financial aid no later than March 15.

All applicants are considered for merit-based scholarships during the admissions application review. Some of these scholarships include the approximately 100 endowed scholarships and gifts that are available to Elizabethtown students through the generosity of the College's alumni and friends. Notification of these scholarships follows the offer of admission, but precedes any need-based awards.

All requests for applications and other information regarding need-based financial assistance should be directed to:

> Financial Aid Office
> Elizabethtown College
> One Alpha Drive
> Elizabethtown, PA 17022-2298
> (717) 361-1404
> finaid@etown.edu

For more detailed information regarding Elizabethtown College's financial aid programs, individuals may request a copy of the "Financial Aid Handbook" from the Financial Aid Office or visit the Financial Aid website at www.etown.edu/FinancialAid.

Federal Financial Aid Requirements

We Have a Right to Ask

All information requested by the Financial Aid Office is authorized by law. The legal right to ask applicants to provide their social security number is based on Section 7(a)(2) of the Privacy Act of 1974 (P.L. 93-579).

All applicants for financial aid at Elizabethtown College are advised that disclosure of their social security number is required as a condition of participation in federal, state and institutional financial aid programs. The applicant's social security number is used in conjunction with the College identification number to identify the applicant's financial aid application and account at Elizabethtown.

The legal right to ask for all other information is based on sections of the law that authorize the Federal Pell Grant, Federal Supplemental Educational Opportunity Grant (SEOG), FWS, Federal Perkins Loan, and Federal Direct Stafford Loan programs. These include sections 411, 413B, 443, 464, 425, 428 and 482 of the Higher Education Act of 1965, as amended. Any information submitted is subject to verification. If applicants do not supply proof when asked, they will not receive financial aid.

Referral of Fraud

Cases of suspected fraud on the part of a Title IV aid applicant involving information relevant to a student's eligibility or amount of assistance will be referred to the U.S. Department of Education. The following circumstances are indicative of possible fraud when the aid administrator can find no other legitimate reason for the discrepancy: 1) false claims of independent student status, 2) false claims of citizenship, 3) use of false identities, 4) forgery of signatures or certifications, and 5) false statements of income. Any referrals made to a local or state law enforcement agency also will be reported to the Office of Inspector General within the U.S. Department of Education.

Viewing an Application File

If students think that an error in their financial aid package stems from information in their file in the Financial Aid Office, they may review their file at any time, according to the Family Rights and Privacy Act of 1974. To see a file, students should call the Financial Aid Office.

The Financial Aid Office treats each student's file with sensitivity and utmost confidentiality. The financial information in these files is released only to those who have contributed to it, i.e., the student and, if he or she is a dependent, his or her parents. Students must give written and signed permission before the College will release information from their file to a third party. All students should keep copies of their tax returns, as the College's copies cannot be returned.

Institutional Refund Policy

If enrolled students choose to leave the College, they must give written notice of withdrawal to Counseling Services. The effective date of withdrawal for calculating refunds is the date of acceptance by Counseling Services. Refunds must be requested in writing.

Failure to provide notice of withdrawal will result in an unofficial withdrawal. Refunds and transcripts will be withheld by the College until an official withdrawal has been obtained.

If the withdrawal occurs within the three weeks prior to registration, a resident student is liable for a $150 room penalty in addition to his or her deposit.

If a student withdraws or changes credit-hours and/or room-and-board status after the beginning of the semester, the student is obligated to pay the actual room and board used to the date of withdrawal plus 25 percent of the unused room-and-board charges. Tuition refunds are calculated as follows:

Withdrawal in first week of classes	75 percent
Withdrawal in second through third week of classes	50 percent
Withdrawal in fourth week of classes	25 percent
Withdrawal at the beginning of fifth week of classes	0 percent

Refunds of tuition and room-and-board charges for a withdrawal due to medical reasons are prorated to the date of withdrawal. A student who is absent from the College because of sickness or other reason and who retains a place in class must pay in full during the absence.

Students who are dismissed or suspended from the College are refunded tuition charges according to the standard policy. Board charges are prorated to the date of dismissal or suspension and a 25-percent surcharge of the unused board is assessed. No room refunds are granted under these circumstances.

Return of Federal Student Aid

Under HEA98 Public Law 105-244, the Department of Education stipulates the way funds paid toward a student's education are to be handled when a recipient of funds from the Student Financial Aid (SFA) Program withdraws from school.

A statutory schedule based on the period the student was in attendance is used to determine the amount of SFA Program funds a student has earned when he or she ceases attendance. Up through the 60-percent point in each payment period or period of enrollment, a pro rata schedule is used to determine how much of the SFA Program funding the student has earned at the time of withdrawal. After the 60-percent point in the payment period or period of enrollment, a student has earned 100 percent of the SFA Program funds.

In general, the amendments require that if a recipient of SFA Program assistance withdraws from school during a payment period or period of enrollment in which the recipient began attendance, the school must calculate the amount of SFA Program assistance the student did not earn and return those funds.

The percentage earned is one of the following:

If the date of student withdrawal occurs on or before the student completed 60 percent of the payment period or period of enrollment, the percentage earned is equal to the percentage of the payment period or period of enrollment that was completed.

If the date of student withdrawal occurs after the student completed 60 percent of the payment period or period of enrollment, the percentage earned is 100 percent.

The percentage and amount not earned is the complement of the percentage of SFA Program assistance earned multiplied by the total amount of SFA assistance that was disbursed and that could have been disbursed to the student or on the student's behalf for the payment period or period of enrollment as of the day the student withdrew.

For credit-hour institutions, the percentage of the payment period or period of enrollment completed is the total number of calendar days in the payment period or period of enrollment for which the assistance is awarded divided into the number of calendar days completed in that period as of the day the student withdrew.

If the student receives less SFA Program assistance than the amount earned, the school must comply with the procedures for late disbursement specified by the department in regulations. If the student receives more SFA

Program assistance than the amount earned, the school and/or the student must return the unearned funds as required and in the order specified.

The school must return the lesser of: 1) the amount of SFA Program funds that the student does not earn or 2) the amount of institutional costs that the student incurred for the payment period or period of enrollment multiplied by the percentage of funds that was not earned.

The student – or parent, if a Federal Direct PLUS Loan – must return or repay, as appropriate, the remaining unearned SFA Program grant and loan funds. However, a student is not required to return 50 percent of the grant assistance that he or she receives and is obligated to pay.

The student – or parent, if a Federal Direct PLUS Loan – must return the unearned funds for which he or she is responsible to the loan program in accordance with the terms of the loan and to grant programs as an overpayment. Grant overpayments are subject to repayment arrangements satisfactory to the school or overpayment collection procedures prescribed by the Secretary of the Department of Education. SFA Program funds for the payment period or period of enrollment for which a return of funds is required must be returned in the following order: 1) unsubsidized Federal Direct Stafford Loans, 2) subsidized Federal Direct Stafford Loans, 3) Federal Perkins Loans, 4) Federal Direct PLUS Loans, 5) Federal Pell Grants, 6) Federal SEOGs, and 7) other assistance under Title IV regulations.

Student Life

Division of Student Life

Elizabethtown College recognizes that learning and achievement extend beyond the classroom.

The Division of Student Life provides students with the opportunity to make connections with campus resources, to develop necessary skills for success, and to productively join in college life. Elizabethtown offers a comprehensive collection of co-curricular programs and services that supports our students' growth and development and enriches their college experience.

Dean of Students

Elizabethtown's Dean of Students serves as the senior student affairs administrator and the primary advocate for our students. The Dean, together with the Student Life staff, works with students and faculty to shape the living and learning environment and enhance the quality of life for all students.

For more information, please visit www.etown.edu/offices/dean-of-students.

Athletics

Elizabethtown College proudly sponsors one of the top NCAA Division III intercollegiate athletic programs in the nation. Enjoying an 85-year tradition of success, the College's 22-team, 13-sport varsity program operates within the principles and rules of the NCAA and the Landmark Conference's philosophy of amateur student-athlete participation. Our exceptional coaching staff believes in the importance of integrating our students' academic and athletic experiences.

All Elizabethtown students receive free admission to home contests. The entire campus community joins in cheering on our Blue Jays to victory.

For more information, please visit www.etownbluejays.com.

Office of Student Rights and Responsibilities

The Office of Student Rights and Responsibilities (SRR) holds the primary function of resolving alleged violations of the Student Code of Conduct, working collaboratively with community members, including the Dean of Students, staff members of Residence Life, Campus Security, Athletics, the Center for Student Success, the Office of Diversity, and students serving as members of the Peer Board. The SRR office upholds practices of a facilitative and fair nature, respecting individual rights while balancing these with community integrity, honesty, civility and safety. The SRR office is dedicated to enriching the social learning experiences of students, whether within a hearing discussing integrity or by training Peer Board members about leadership. The SRR office staff members take pride in their daily interactions with students, especially in their goal of educating students about the College's policies and procedures as well as the College's goals of living healthy, balanced and ethically rich lives.

For more information, please visit www.etown.edu/offices/student-rights.

Student Wellness

The office of Student Wellness provides services that enhance the health and wellness of Elizabethtown College students. Student Wellness is comprised of three collaborative service areas including Student Health, Counseling Services, and Health Promotion. Our mission is to promote an environment that educates and supports students in their endeavors to achieve academic and personal success.

For more information, please visit www.etown.edu/offices/wellness.

Student Health

Elizabethtown College, in collaboration with Penn State Milton S. Hershey Medical Center, provides comprehensive clinical health services for our students. Services are provided at the Penn State Hershey Medical Group's Elizabethtown office located within one block of campus.

Health insurance is required for all full-time Elizabethtown College students. The cost of the insurance is included in the fall comprehensive fee. Students who have comparable insurance and wish to be exempt from this requirement must sign a waiver.

For the protection of the College community, all full-time students are required to provide proof of immunization against rubella, rubeola, mumps, hepatitis B, varicella, meningitis and an updated tetanus diphtheria booster. The College reserves the right to deny access to the campus to anyone who is judged to be actively contagious with a serious condition or disease.

For more information, please visit www.etown.edu/offices/health.

Counseling Services

Counseling Services provides a broad range of counseling and mental health support services that facilitate our students' personal and educational development. Counselors offer short-term counseling, consultation and/or referral for a variety of mental health concerns.

Counseling Services is staffed by licensed mental health professionals and has limited psychiatrist hours available on a biweekly basis during fall and spring terms.

For more information, please visit www.etown.edu/offices/counseling.

Health Promotion

Health Promotion strives to promote a healthier campus community through prevention programs and educational activities. Our peer educators focus on the eight dimensions of wellness to assist students in achieving individual well-being by making health choices based on their developing values. Health Promotion also offers The WELL, a resource room located in the Baugher Student Center that provides self-help kits and a range of wellness information.

For more information, please visit www.etown.edu/offices/health-promotion.

Residence Life

Elizabethtown College students are required to live in campus housing unless they are approved to live off-campus. The College offers a variety of housing options, including traditional residence halls, on-campus town houses and apartments, and Student Directed Learning Communities (SDLC).

In the traditional residence halls there are several floors designated as Living and Learning Communities, which are focused residential living/learning environments.

Juniors and seniors have the option to apply to live in our SDLCs. Established in 1992, SDLCs are housing opportunities in College-owned homes along the perimeter of the campus. These houses offer small groups of students the opportunity to create a unique, self-directed living environment, centered on a common theme, issue or interest through which the group is expected to serve others and enrich the campus or the neighboring community.

Throughout the year, Residence Life staff members and student resident assistants create engaging programming and activities that enhance campus life and continue the educational experience outside of the classroom.

For more information, please visit www.etown.edu/offices/residence-life.

Career Services

Career Services guides students in all aspects of the career development process, from choosing a career, to selecting a major, to implementing their post-graduate plans. Through e^4, students can participate in programs designed to engage them in four phases of the career development process: explore, envision, experience, and enact.

Students are encouraged to collaborate with Career Services to develop career goals that will integrate their passions, skills, and values as they pursue curricular and co-curricular activities.

Staff members are available to help students explore majors and careers, obtain graduate school information, and develop the skills needed when seeking an internship or employment. Participation in job shadowing opportunities, career fairs, on-campus recruiting, employer site visits, networking sessions, and the use of Jobs for Jays – our online job posting system – provides students with an opportunity to connect with potential employers.

For more information, please visit www.etown.edu/offices/career.

Center for Student Success

The Center for Student Success provides comprehensive academic support services to Elizabethtown College students. The Center is comprised of distinct, yet integrated, service areas, including Academic Advising, Disability Services, Learning Services, Writing Wing, International Student Services, and Student Transition Programs. Additionally, the Center's Director chairs the Campus Wellness Network.

For more information, please visit www.etown.edu/offices/student-success.

Academic Advising

Academic Advising guides students in the development of meaningful educational plans that are compatible with their life goals. This program supports and complements the faculty advising system on campus, is offered to all students at Elizabethtown College.

First-year students are assigned a faculty advisor, who also is their First-Year Seminar instructor. In their second semester, first-year students may declare a major and, if they do, will be assigned a faculty advisor from the department of their chosen major. Deciding or undeclared students remain with their first-year advisor for another semester, and thereafter will be assigned to one of our professional advisors from Academic Advising until they declare a major. Additionally, our students benefit from support and guidance from trained peer mentors, resident assistants and Student Life professionals.

We strive to support students who are experiencing difficulty when that academic advice is the most productive – early and while there is still an opportunity to resolve it with a successful outcome. This office uses a time-proven, five-week early warning system, intended to identify students struggling in 100- and 200-level courses. This early-warning system provides intervention, referral and support. Additionally, Academic Advising provides support to all students at the College who are placed on academic probation.

The Director of Academic Advising or designee may conduct academic progress checks by contacting faculty to determine a student's current academic standing, attendance, participation, and observable behavior in courses for the purpose of follow-up, support, or intervention.

The Director of Academic Advising or designee may notify faculty and staff with courtesy notifications when a student is unable to attend classes due to illness, hospitalization, death of loved one, discipline issues, or personal circumstances. The notification is to facilitate communication only and does not supersede individual course attendance policies. The student will still be responsible for contacting faculty to discuss missed work. The student or family member may contact Stephanie Rankin, Director of Academic Advising, at (717) 361-1415.

For more information, please visit www.etown.edu/offices/advising.

Disability Services

Elizabethtown College is committed to providing equal access to all of its courses, programs and services for qualified students with disabilities in accordance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990.

Students requesting academic adjustments and accommodations can do so by having their health care provider complete the appropriate disability-related information form located on the Disability Services website. All requests for academic adjustments and accommodations are reviewed by the Director of Disability Services.

For further clarification about policies for students with disabilities or for information about the College's disability policy grievance procedures, please contact Lynne Davies, Director of Disability Services, at (717) 361-1227.

For more information, please visit www.etown.edu/offices/disability.

Learning Services

Learning Services encourages all enrolled students to take advantage of peer tutoring and resources for college success. Professional staff members provide students with assistance in time management, test-taking preparation, and study strategies. Faculty-recommended students provide peer tutoring in writing and specific academic courses.

For more information, please visit www.etown.edu/offices/learning.

The Writing Wing

The Writing Wing can help all students improve their writing with the help of student tutors who are trained and updated on their skills by a faculty member who teaches writing at Elizabethtown, and who is also a professional writer. Writing Wing tutors are friendly, and it's easy for students connect with them for an hour-long session. Many tutors are education or English majors, but there are also some from other majors. We emphasize a chain of events frequently called the writing process. It's not simply a proofreading service; instead, it's a learning service aimed at helping students become better writers. The Writing Wing also conducts workshops about all aspects of writing for faculty and students and can act as a resource about writing for anyone in the campus community.

To learn more about The Writing Wing, please visit www.etown.edu/offices/writing-wing, or to stop by and see us in the Baugher Student Center, second floor, in Learning Services.

Office of International Student Services

Elizabethtown College welcomes students each year from more than 25 countries who choose to study at Elizabethtown either as exchange students for a semester or year, or who pursue full degree programs. The Office of International Student Services (OISS) provides assistance and advice for these students and sponsors international co-curricular programs on campus. The Director of International Student Services serves the international student community by providing orientation and New International Student Seminar programs for new students, advising students about immigration and visa issues, and providing guidance about U.S. Citizenship and Immigration Services (USCIS) and Department of State regulations. The Director also advises students about employment, taxes, extracurricular programming and supervises the International Leadership Team.

ISS 170 - New International Student Seminar

For more information, please visit www.etown.edu/offices/international-students.

Campus Wellness Network

Elizabethtown College's Campus Wellness Network is an effective student support system that seeks to proactively identify and aid at-risk students. Composed of faculty and staff, the Campus Wellness Network bridges academic and co-curricular aspects of college life at Elizabethtown to take a more holistic approach to student success.

Any member of the campus community may refer to the Campus Wellness Network a student who he/she believes is experiencing difficulty in or out of the classroom. Once identified, the Network will formulate an appropriate course of intervention that will suggest choices and options that the at-risk student may not have recognized. Through interventions, students receive the support they need and learn valuable skills that benefit them not only during their college career, but throughout their lives.

For more information, please visit www.etown.edu/offices/counseling/campus-wellness-network.

Center for Student Involvement

Through the activities of the Center for Student Involvement, Elizabethtown College students are offered productive and engaging programming that allows them to connect with the campus community, to get involved, and to build lasting memories of their college experience. The Center also provides opportunity, direction and support for tomorrow's leaders as they develop the skills that will benefit them for a lifetime.

Through the Center, four professional offices – the Office of the Chaplain and Director of Religious Life, the Office of Student Activities, the Office of Diversity, and the Office of International Student Services – provide a variety of programs and services. Center for Student Involvement staff also administer the College's Called to Lead program.

In addition, four student organizations join in enhancing campus life by planning unique events and offering services to Elizabethtown students. These organizations include Students Working to Entertain E-town (S.W.E.E.T.), which plans and coordinates special events; The Etownian, our student-run newspaper; the Conestogan, the College yearbook; and Student Senate, the student governing body.

Office of the Chaplain and Religious Life

The Office of the Chaplain and Director of Religious Life strives to create a vital and vibrant atmosphere for spiritual growth and religious exploration. Each year, the Office sponsors Soul Café, Interdenominational Christian Worship, interfaith prayer services, the Labyrinth Experience, Fake Fireplace...Real Conversation, alternative spring break trip, and more. The Chaplain and Assistant Chaplain are available to students for spiritual mentoring, pastoral care and vocational exploration.

Religious Life on campus also includes many active student groups, as well as a number of ministries from various denominations and organizations, including Catholic Campus Ministry, Brethren student fellowship, Campus Crusade for Christ, the Faith in Action student group, Hillel Club, InterVarsity Christian Fellowship, Lutheran Campus Ministry, and Newman Club.

Through the leadership of the Chaplain's Office, the College was one of approximately 250 colleges and universities to participate in President Obama's Interfaith Campus and Community Service Challenge for the academic year 2011-2012. The Chaplain's Office will continue to pursue a strong emphasis on interfaith understanding, leadership and service in the coming years.

For more information, please visit www.etown.edu/offices/chaplain.

Called to Lead Program

Called to Lead invites students to enlarge their potential by exploring leadership within the context of the meaning of life, the many things that really matter to them, and the ethical issues and concerns of the world. Students personally craft their own program from an a la carte menu of events, where faculty and staff address the question of what really matters in the world and why it matters, sharing networking dinners with alumni; participating in servant-leadership trips; attending mini-workshops on special topics, such as managing group conflict or leading from personal strengths; choosing innovative academic courses; and engaging in reading groups.

Students accumulate points for participation in events and courses, and receive recognition at the milestones of 300 and 600 points. Those who reach 1,000 points receive our Called to Lead certificate and a signature sash to wear at Commencement.

The Called to Lead program includes students from more than 20 different majors ranging from business to education to theatre. Currently, more than 300 students are involved in the program.

For more information, please visit www.etown.edu/offices/chaplain/called-to-lead.

Office of Student Activities

The Office of Student Activities (OSA) strives to create an environment that calls for participation and involvement in the campus community and to develop students into campus leaders. OSA is comprised of a network of students that provide a wide range of programming for the student body: S.W.E.E.T. sponsors social events on and off campus, from comedians to city excursions; A Step Up provides edu-tainment programs to advance a student's knowledge base in a unique learning experience; E-fit is a fitness series that combines free group fitness classes on and off campus with free passes to the local gym. intramurals give students the opportunity for friendly competition in a growing number of sports and contests, and the Body Shop serves as the on-campus location for personal fitness.

The Office also serves as the primary resource to the College's more than 80 student groups that strive to enhance their individual contributions to the College community.

For more information, please visit www.etown.edu/offices/osa.

Office of Diversity

The Office of Diversity seeks to create and sustain an inclusive environment that examines, recognizes, and affirms the human dignity of all campus members. This includes but is not limited to race, ethnicity, sexual orientation, socioeconomic status, religion, ability, gender, gender identity and expression, age, and national origin. The office is instrumental and plays a leadership role through working collaboratively with staff, faculty, students, and senior administrators to enhance diversity and inclusive excellence on campus. Programs and activities include strategic planning, faculty and staff development, student training, research, guest lectures, workshops, and conferences. The Dr. Martin Luther King, Jr. Week Planning Committee and the Campus Diversity Advocates represent additional programs. The Office of Diversity also connects with local, regional, and national organizations to build capacity and strengthen diversity initiatives at the college.

For more information, please visit www.etown.edu/offices/diversity.

Unique Centers of Learning

Overview

Six centers of learning at Elizabethtown College – the Center for Global Understanding and Peacemaking, the Center for Community and Civic Engagement, the Young Center for Anabaptist and Pietist Studies, the School of Continuing and Professional Studies, the Center for Excellence in Teaching and Learning, and the Bowers Writers House – add depth and uniqueness to our academic program and broaden the institution's appeal to a wider audience.

The Center for Global Understanding and Peacemaking provides a variety of opportunities for our undergraduate and graduate students both in and out of the classroom, at home and abroad. The Center for Community and Civic Engagement creates civic engagement experiences to provide opportunities to more fully explore the meaning of our motto "Educate for Service" in today's increasingly global society. The Center for Excellence in Teaching and Learning is a resource center and educational forum for developing new modes of learning for our students. The Young Center peripherally touches our students through the speakers it hosts, the resources it brings to our classrooms, and the lectures it offers on our campus. The School of Continuing and Professional Studies further enriches the campus by bringing adult learners from the community to the campus to experience and participate in the academic excellence of the College. The Bowers Writers House is an interdisciplinary venue for presentation, performance, expression and study.

Center for Global Understanding and Peacemaking

The Center for Global Understanding and Peacemaking advances curricular and co-curricular programs to enhance global understanding and non-violent conflict transformation. The Center also brings together three interdisciplinary programs, International Studies, Asian Studies, and Peace and Conflict Studies and is the home of the Ware Colloquium for Global Citizenship and Peacemaking, an endowed program that includes the Ware Lecture on Peacemaking and the Ware Seminars on Global Citizenship.

The Center creates opportunities for students, faculty, and staff to develop into global citizens who are knowledgeable about global issues, empathetic towards people of other cultures and nationalities, and committed to the values of peace, human dignity, and social justice.

The College's approach to global citizenship is distinctive, owing to our particular mission and heritage. In keeping with the Brethren faith of our founders, Elizabethtown's mission declares that "the College affirms the values of peace, nonviolence, human dignity and social justice and seeks to make those values manifest in the global community," consistent with our motto to "Educate for Service." The Center's mission affirms the values of the College and frames international engagement as a commitment to peace, service, and cultural understanding.

Every year, the Center organizes a variety of trips, activities, lectures and events to enable students to more fully explore the practice of and their commitment to peace. The Center's Peacemaker-in-Residence enhances programs on peace and mediation, and the Ambassador-in-Residence manages external and international partnerships. Since spring 2007, the Ware Lecture on Peacemaking has brought world leaders, including several Nobel Laureates, to campus to engage students, faculty and staff on issues of global peace and justice.

For more information, please visit the Center for Global Understanding and Peacemaking website at www.etown.edu/centers/global.

Center for Community and Civic Engagement

In keeping with Elizabethtown College's Educational Philosophy and Institutional Learning Goals, the Center for Community and Civic Engagement provides opportunities for students to strengthen scholarship and leadership beyond the classroom. The CCCE provides Community Based Learning (CBL), opportunities for our students such as undergraduate community-based research, experiential learning and civic engagement that offer all students pathways and opportunities for real-world learning in the community in preparation for meaningful life work.

In seeking to "educate for service," Elizabethtown College believes that students can perform no greater service than they do when sharing knowledge and creativity with others. The Center provides opportunities for students to participate with annual campus-wide events, such as Into the Streets, Martin Luther King Jr. Day of Service, and National Hunger and Homeless Awareness Week; Community Service Work Study; ongoing volunteer placements, such as Big Brothers Big Sisters, Girl Scouts, afterschool programs, the Elizabethtown Community Assistance Program (E-CAP), and the Moving Forward Together mentoring program with Milton Hershey School and the School District of Lancaster. In addition, across campus, there are frequent and focused efforts of our student clubs, service organizations, and Student Directed Learning Communities.

The Community Based Learning pedagogy is being integrated into our classrooms through faculty-directed projects, urban and rural service-learning experiences, undergraduate research, and fieldwork. Service-Learning increasingly is being integrated into international travel opportunities in places as far away as Ireland, Thailand, Vietnam, Ghana, and Gambia.

Elizabethtown College is a member of Campus Compact, a national coalition of nearly 1,200 colleges dedicated to promoting community service, civic engagement and service-learning in higher education. The College also is an AmeriCorps campus, offering opportunities for students to serve as AmeriCorps Scholars in Service to Pennsylvania.

For six consecutive years, Elizabethtown has been selected for the President's Higher Education Community Service Honor Roll, recognizing the efforts our College community makes in building a national culture of service and civic engagement. In 2013, Elizabethtown College was recognized with the President's National Higher Education Community Service Award With Distinction. Elizabethtown College received the Carnegie Foundation for the Advancement of Teaching's 2010 Engagement Elective Classification. The Center for Community and Civic Engagement documented excellent alignment among mission, culture, leadership, resources, and practices that support dynamic and noteworthy community engagement, and we were able to respond to the classification framework with both descriptions and examples of exemplary institutionalized practices of community engagement. We also documented and coordinated evidence of community engagement in a coherent and compelling response to the framework's inquiry.

Although our service begins at home, it certainly doesn't stop here. Individually and collectively, members of our community are reaching far beyond our campus boundaries to help those in need. In partnership with relief and development agencies, students, faculty and staff take part in yearly trips during winter and spring break and May term to Louisiana, Mississippi, Texas, Tennessee, Florida, Native American Lands, and other areas to provide assistance where it is needed. The Center also houses the Disaster Relief Initiative. The entire campus community pulls together to support victims of natural disasters both domestically and internationally.

All of these efforts are the result of our belief that we have an obligation to use our knowledge to aid those in need, whether they live right around the corner or halfway around the world. And through these experiences our students benefit because their understanding of the global community is broadened and their knowledge of their chosen discipline is enhanced.

For more information, please visit the Center for Community and Civic Engagement website at www.etown.edu/centers/community-civic.

Young Center for Anabaptist and Pietist Studies

The Young Center for Anabaptist and Pietist Studies is an internationally recognized scholarly institute that fosters the research and interpretation of Anabaptist and Pietist groups. Integral to the academic life of Elizabethtown College, the Young Center connects the college to an international network of scholars who research Anabaptist and Pietist groups. The Center faculty teach undergraduate courses related to Anabaptist and Pietist studies. The staff conducts research on the life, culture and beliefs of Anabaptists and Pietists, primarily in the North American context. Interpretive programs open to the general public include evening lectures and seminars during the academic year, exhibits and occasional conferences.

Located on Elizabethtown College's Lake Placida, the Young Center is named for Dr. Galen S Young, D.O., and Jessie M. Young and includes the Bucher Meetinghouse, named for long-time college trustee Rufus P. Bucher. The Young Center holds a unique collection of Amish-related publications and a small rare book collection related to Anabaptist and Pietist groups.

The Young Center brings visiting scholars to campus for a semester of research and writing in Anabaptist and Pietist studies by offering the Snowden Fellowship and the Kreider Fellowship. An annual doctoral fellowship is also available for doctoral students who are researching or writing about topics related to Anabaptism and Pietism. Fellows come to the Young Center from diverse backgrounds from across the nation and around the world.

The Young Center works with Johns Hopkins University Press to publish Young Center Books in Anabaptist and Pietist Studies, a book series for which Senior Fellow Donald B. Kraybill serves as editor.

Each year the Center presents the Dale Brown Book Award for the book designated by a panel of independent judges as the best new book in Anabaptist or Pietist studies. The Center also sponsors the annual Durnbaugh Lectures, which feature a distinguished scholar who advances Anabaptist and Pietist studies.

For more information, please call (717) 361-1470 or visit the Young Center website at www.etown.edu/centers/young-center.

Center for Excellence in Teaching and Learning

Elizabethtown College's Center for Excellence in Teaching and Learning (CETL) is dedicated to the development of the College's faculty and professional staff and the promotion of interdisciplinary dialogue and scholarship. Launched in 2007, CETL serves as a resource center and educational forum for developing new modes of learning for our students. The Center promotes the sharing of best practices in pedagogy, conducts professional development activities, and enhances the activities of other College centers and programs.

CETL also administers the College's Collaborative Interdisciplinary Scholarship Program, which offers financial support for interdisciplinary scholarship projects undertaken jointly by teams of faculty, students and professional staff. Through these grants, multidisciplinary teams create new or revised interdisciplinary courses, research opportunities, teaching innovations, articles and presentations for professional conferences.

For more information, please contact Dr. E. Fletcher McClellan.

Bowers Writers House

Written communication -- whether it be fiction, poetry, drama, essay, or nonfiction -- colors the way people visualize the world. Each academic department at Elizabethtown College relies on effective writing to inform and educate. The College has a firm commitment to fostering effective writing and encouraging intellectual dialogue that crosses academic boundaries. Illustrative of this commitment is Elizabethtown College's creation of Bowers Writers

House, designed to provide thought-provoking opportunities for the faculty, staff and students from our 40+ majors as well as members of the Lancaster County community.

Bowers Writers House offers an interdisciplinary variety of programming, involving scholars from all genres of study. In our first three years, we've hosted over 130 historians, mathematicians, musicians, genetic scientists, linguists, poets, actors, playwrights and national and international activists and humanists. And in those three years of activity Bowers Writers House has seen over 200 events and over 1,500 visitors. We look forward to contributing to the on and off-campus communities of Elizabethtown College for years to come.

For more information, please call (717) 689-3945 or visit the Bowers Writers House website at www.etown.edu/centers/writershouse.

Academic Program

Degrees Offered

Elizabethtown College grants six residence degrees: Bachelor of Arts, Bachelor of Music, Bachelor of Science, Bachelor of Social Work, Master of Education, and Master of Science. Five additional degrees are offered through the School for Continuing and Professional Studies: Bachelor of Liberal Studies, Bachelor of Professional Studies, Associate of Arts, and Associate of Science, and Master of Business.

The Core Program

The Core Program supports the academic goals expressed in Elizabethtown College's mission statement. It has four major purposes: to provide a sense of mission and purpose to general education, to provide a foundation for successful study in liberal arts and professions, to integrate knowledge across the disciplines by engaging students in the study of the natural world and the human experience, and to develop habits of the mind that foster continued intellectual growth. The Core Program promotes truth, tenable judgments and important ideas by assuring that a student has the opportunity to acquire significant knowledge and accepted methods of inquiry.

An important component of the Core Program is the First-Year Seminar. In addition, students enroll in 10 courses in eight Areas of Understanding. The thematic Areas of Understanding unite the Core Program into a cohesive offering, develop skills of self-education, and integrate knowledge across the disciplines. Any exceptions to Core requirements must be petitioned to the Academic Standing Committee.

Common Core

Students, who are entering the College for the first time and who are pursuing a bachelor's degree, must take a First-Year Seminar during their first semester. Transfer students who have completed fewer than 24 credits of course work at another college also are required to complete the First-Year Seminar.

Student Learning Outcomes for First-Year Seminar:

Students will be able to:

- Demonstrate understanding of the academic expectations of college life.
- Demonstrate critical thinking skills.
- Demonstrate improvement in communication skills.
- Discuss the central ideas of a particular body of knowledge or discipline.
- Locate information and evaluate its accuracy, quality, timeliness, and usefulness.
- Exhibit intellectual curiosity.
- Write an appropriately researched and documented academic paper.
- Relate their opportunities for learning outside the classroom to their academic courses, personal interests, and intended program of study.

FYS 100 - First-Year Seminar
4.00 credits. The First-Year Seminar provides an educational experience that is composed of several important components. First, it develops intellectual skills, such as critical analysis and synthesis, and communications skills,

such as speaking and writing. Second, it broadens definitions of learning. The student is exposed to multiple ways of acquiring information and knowledge. Third, the First-Year Seminar establishes the integration of knowledge. Using the instructor's major field of study as a foundation, this course promotes connections across disciplines. Students will also attend events outside of class such as talks, plays, concerts, art exhibits, and Student Life events. The First-Year Seminar is letter-graded. Register by Instructor.

Areas of Understanding

The Elizabethtown College Core Program consists of eight thematic Areas of Understanding (AU).

Power of Language (two courses)

Students are required to take one English-based course (Power of Language - English) and one Modern or Ancient Language Course (Power of Language - Other) to complete this Area of Understanding.

Courses in the English component of this AU emphasize the use of the English language in logic, rhetoric, and persuasive communication. Students learn to articulate ideas and critically evaluate arguments. Students may complete a writing-based English course (EN 100) or, for students who test accordingly, an advanced course (EN 150 or PH 110). Students placed in English 100 must successfully complete EN 100 for their Power of Language AU. Students who receive credit for EN 100 (including transfer or AP credit) cannot receive credit for EN 150. The Power of Language – English course must be taken during the students' first year or prior to the start of their second year.

Student Learning Outcomes for the Power of Language (English-based) AU:

Students will be able to:

- Construct logical and persuasive argument.
- Read carefully and critically.
- Analyze and synthesize new ideas.
- Explain how language affects thinking and conceptual development.

Courses in the Other component of the Power of Language AU allow students to start or continue the study of a Modern or Ancient Language. These courses come primarily from the Department of Modern Languages.

Student Learning Outcomes for the Power of Language (other) AU:

Students will be able to:

- Communicate in the target language.
- Analyze and synthesize new ideas.
- Explain how language and culture affect thinking and conceptual development.

Mathematics (one course)

This AU develops competency in quantitative reasoning and problem-solving skills. These courses come primarily from the Department of Mathematical and Computer Sciences.

Based upon mathematical and analytical skill level, new students are required to take either MA 011 (a college mathematics preparatory course that does not count for Core or graduation credit) or a college-level mathematics course. Students with a placement of MA 011 are required to complete this course prior to enrolling in a Mathematics Core course.

Student Learning Outcomes for the Mathematics AU:

Students will be able to:

- Use inductive or deductive reasoning to formulate and evaluate arguments.
- Model real-world phenomena mathematically.
- Utilize mathematics effectively in problem-solving strategies.

Creative Expression (one course or course equivalent)

Courses in this AU include analysis and interpretation of artistic works. Students focus on creation or performance within a particular artistic discipline. These courses come primarily from the Department of Fine and Performing Arts (Art, Music, Theatre, Dance) and the English department. Students can also use any combination of private music lessons or ensembles equaling 4 credits to satisfy this requirement.

Student Learning Outcomes for the Creative Expression AU:

Students will be able to:

- Discuss concepts employed in the creation and analysis of like artworks.
- Develop and articulate informed aesthetic judgments.
- Create or perform artistic work representative of the discipline.
- Express the intrinsic value of an artistic medium.
- Give examples of the way in which creative art forms show and affirm human feelings, desires, experiences, and/or values.

Western Cultural Heritage (one course)

This AU introduces students to Western culture and history through the critical analysis of significant human endeavors in Europe and the Americas. These courses come primarily from the departments of English, History, Philosophy, Sociology/Anthropology, Religious Studies, Modern Languages, and Political Science.

Student Learning Outcomes for the Western Cultural Heritage AU:

Students will be able to:

- Explain the importance of a specific aspect of Western cultural heritage.
- Describe the historical context of the subject under study.
- Give an illustration of the complexity of the past and its relationship to the contemporary world.
- Give an example of the way that knowledge can be subject to a variety of interpretations.
- Analyze primary and/or secondary sources.

Non-Western Cultural Heritage (one course)

This AU introduces students to Non-Western culture and history through the critical analysis of significant human endeavors in Asia and the Pacific, Africa, and the Middle East. These courses come primarily from the departments of English, History, Philosophy, Sociology/Anthropology, Religious Studies, Modern Languages, and Political Science.

Student Learning Outcomes for the Non-Western Cultural Heritage AU:

Students will be able to:

- Explain the importance of a specific aspect of non-Western cultural heritage.
- Describe the historical context of the subject under study.
- Give an illustration of the complexity of the past and its relationship to the contemporary world.
- Give an example of the way that knowledge can be subject to a variety of interpretations.
- Analyze primary and/or secondary sources.

Natural and Physical Sciences (two courses in different disciplines)

This AU explores the natural and physical world through discussion and discovery of major scientific concepts and theories. Students must complete two courses in different disciplines. At least one course must include a laboratory component, which emphasizes "the hands on" nature of science. These courses come primarily from the departments of Biology, Chemistry, and Engineering and Physics.

Student Learning Outcomes for the Natural and Physical Sciences AU:

Students will be able to:

- Describe and apply major scientific concepts of a particular field.
- Explain methods of scientific inquiry.
- Collect (if a lab-based course), analyze, and interpret data.

Social Sciences (one course)

Courses in this AU observe and analyze human behavior, ranging from the formation of the self and family structures to economic trends and the interactions of nations. These courses come primarily from the departments of History, Political Science, Sociology/Anthropology, Psychology, and Economics.

Student Learning Outcomes for the Social Sciences AU:

Students will be able to:

- Discuss and apply major concepts and theories that interpret and explain human behavior and interaction.
- Describe the diversity and/or integration of social worlds.
- Explain the organization and function of one or more social systems.
- Analyze influences that affect human thought, feelings and behaviors.

- Describe the methods and procedures of social science research.

Humanities (one course)

Courses in this AU examine ethical and moral dilemmas, values, and choices from an analytical or critical perspective. Students are engaged in the decision-making process and consider the implications of their choices for self and society. Courses in this AU come primarily from the departments of Philosophy, English, History, Religious Studies, and Fine and Performing Arts.

Student Learning Outcomes for the Humanities AU:

Students will be able to:

- Describe the nature and origin of one or more values that govern human conduct.
- Relate the value or values under study to a fundamental human dilemma.
- Describe the way in which a major work (literary, artistic, historical, religious, or philosophical) contributes to our understanding of values.
- Explain how an individual's values and choices can be influenced by many factors.
- Apply knowledge about values to a particular ethical situation, moral dilemma or aesthetic judgment.

Additional Requirements and Policies

Students must take at least one Guided Writing and Research (GWR) course beyond their Power of Language – English course. GWR courses can be in any AU other than Power of Language – English. Refer to the online list of Core courses for those designated as GWR.

Courses approved by Academic Council for Core that also are required for a particular major or minor may be used to fulfill both requirements.

Seniors may enroll in Core Program courses to complete Core, major or minor requirements as needed. Seniors may not enroll in Core Program courses for elective purposes until all enrolled underclass students have had the opportunity to select courses during official registration periods in November and April. In this context, seniors include students of senior status and juniors who will achieve senior status at the completion of the current semester.

The Core Program may be satisfied in its entirety by transfer courses (i.e., there is no residency requirement for the Core). Students wishing to satisfy the GWR requirement with an off-campus course must submit a syllabus for evaluation.

Students can satisfy Core AU requirements with transferred courses that are worth at least three credits.

Majors with more than 125 credits for graduation may be allowed to count two courses required of the major in lieu of two courses from the Core. Courses would have to meet the goals for the appropriate AU. Academic Departments may apply to the Core Committee and Academic Council to demonstrate how the major courses satisfy the goals of the AU.

When course requirements for an academic program meet the educational objectives for a Core AU, Academic Departments may petition Academic Council for a waiver of that AU for students completing the program. The course requirements supporting the waiver must be an integral part of the academic program.

Students are required to complete the appropriate level of mathematics, English, and modern/ancient language courses as determined by the College. Once students have completed the appropriate level, they cannot receive credit for taking a lower-level course in the sequence.

The First-Year Seminar may not be substituted for a major or minor course or to waive a requirement for the major or minor.

Academic Majors

The College offers degrees in the following academic majors, within which a number of options are available. The details of major requirements are included in the Programs and Courses section of this Catalog.

Accounting (B.S.)
Actuarial Science (B.S.)
Biochemistry (B.S.)
Biology (B.S.)
Biology Programs with Other Institutions (B.S.)
Biology Secondary Education (B.S.)
Biotechnology (B.S.)
Business Administration (B.S.)
Chemistry (B.S.)
Chemistry and Biochemistry Programs with Other Institutions (B.S.)
Chemistry Secondary Education (B.S.)
Communications (B.A.)
Computer Engineering (B.S.)
Computer Science (B.S.)
Early Childhood Education (B.S.)
Economics (B.A.)
Elementary/Middle Level Education (B.S.)
Engineering (B.S.)
English (B.A.)
English Secondary Education (B.A.)
Environmental Science (B.S.)
Fine Arts (B.A.)
Fine Arts Education (B.A.)
Forestry and Environmental Management (B.S.)
French (B.A.)
General Science (B.S.)
German (B.A.)
Health and Occupation (B.S.)
History (B.A.)
Industrial Engineering Management (B.S.)
Information Systems (B.S.)
International Business (B.S.)
Japanese (B.A.)
Legal Studies (B.A.)
Master of Education (M.Ed.)
Mathematics (B.S.)
Mathematics Secondary Education (B.S.)
Music (B.A.)

Music Education (B.M.)
Music Therapy (B.M.)
Occupational Therapy (M.S.)
Philosophy (B.A.)
Physics (B.S.)
Physics Secondary Education (B.S.)
Political Science (B.A.)
Psychology (B.A.)
Religious Studies (B.A.)
Social Studies (B.S.)
Social Work (B.S.W.)
Sociology-Anthropology (B.A.)
Spanish (B.A.)
Spanish Education (B.A.)
Theatre (B.A.)

Academic Minors

Students may elect to pursue an academic minor in addition to their major. Minors allow the student to acquire depth of knowledge in an area of secondary interest outside the major. Program requirements for each minor can be found in the Programs and Courses or the Interdisciplinary Programs sections of this Catalog. The College offers the following minors: Anabaptist and Pietist Studies, Anthropology, Art History, Asian Studies, Biochemistry, Biology, Business Administration, Chemistry, Cognitive Science, Communications, Computer Science, Creative Writing, Economics, English Literature, English Professional Writing, Film Studies, French, General Psychology, General Science, German, History, Human Services, International Studies, Information Systems, Japanese, Mathematics, Music, Peace and Conflict Studies, Philosophy, Physics, Political Science, Religious Studies, Sociology, Spanish, Studio Art, Technical Design, Theatre, and Women and Gender Studies.

Elizabethtown College Honors Program

The Elizabethtown College Honors Program, established in 1999 and sponsored by The Hershey Company, reflects the College's commitment to providing hand-crafted learning opportunities for its students. In the case of the Honors Program, the focus of this handcrafting is on students with excellent academic records, superior academic abilities, intellectual promise, and demonstrated initiative. Consistent with the mission of the College, the Honors Program seeks to promote high standards of scholarship, leadership, and service among those students selected for the program. Class size deliberately is kept small; no more than 15 students are enrolled in each course.

The opportunity to work closely with faculty mentors from the first year to the senior year is an explicit goal of everyone associated with the program. In order to foster even greater involvement between faculty scholars and Honors students, co-curricular activities are an integral part of the program. International travel is both encouraged and facilitated. Semester-long, study-abroad opportunities are expected, but there also are opportunities for students to visit a foreign country in a January or May term experience.

To facilitate such experiences, the Elizabethtown College Honors Program allows each qualified student to apply for an Academic Research Grant that can be used in support of these trips or to support senior thesis research. In order to help foster a deeper sense of community, study rooms, a reserved lounge and a computer lab are located in the Honors Center for Honors student use.

For more information, please visit www.etown.edu/HonorsProgram.

Admissions Process

Admission to the Elizabethtown College Honors Program is very competitive. The minimum standard for admission is a combined score of at least 1200 on the critical reading and math portions of the SAT (with no score below 550) or equivalent on another standardized test (TOEFL or ACT), a rank within the top 10 percent of the student's high school graduating class, and review by the Honors Committee acting on the recommendation of the Office of Admissions.

The application deadline for the Honors Program is January 15. Notification is guaranteed by April 1. Students interested in the Honors Program are required to have an on-campus interview with an Admissions officer.

A limited number of students are accepted to the Honors Program during their sophomore year. These students must demonstrate excellence in their first-year courses, provide recommendations from at least two Elizabethtown professors, and have the concurrence of the Honors Committee. Rising sophomores must apply by March 15 for consideration.

Participation Requirements

Students entering the Elizabethtown College Honors Program in their first academic year take an Honors First-Year Seminar and an Honors Interdisciplinary Seminar focusing primarily on critical thinking and foundational skills. In the sophomore/junior years, Honors students take two additional Honors elective courses from the College's Core Program or in majors, minors or electives. In the junior year, students complete Honors Leadership Theory and Practice. The final capstone Honors experience is the completion of a Senior Honors Thesis. A total of 24 credits must be acquired in Honors courses in order to fulfill the requirements and graduate as a recognized Elizabethtown College Honors Scholar. In order to remain in good standing within the program, students must maintain a grade point average of 3.50 overall.

A list of Honors courses is available through the course descriptions tab of this Catalog. Define the search criterion as an "H" in the "Code" field or select a specific Honors "Type" shown in the drop-down menu. All Honors courses are noted on course schedules with an "H" at the beginning of the course code and "HNR" at the beginning of the title.

The following non-disciplinary Honors courses are offered:

HON H301 - HNR Thesis Preparation
1.00 credit. A foundation for successfully developing and writing the Honors Senior Thesis through becoming familiar with writing and research approaches of the student's chosen discipline; strengthening writing and oral presentation skills; developing a timetable with deadlines for defining the scope of work and managing its completion; completing a working bibliography and a research proposal for an Honors Senior Thesis Project; and becoming more confident and capable of successfully completing a year-long thesis project with minimal supervision from a professor. Credit counts toward senior thesis requirement. To be taken spring semester of Junior year. Pass/No Pass. Register by Instructor.

HON H305 - HNR Leadership Theory and Practice
4.00 credits. A capstone experience in the Honors Program, this course examines a wide variety of both theory and examples of leadership. Students will identify what types of leadership skills they have and wish to develop through self-assessment and reflection. Students will implement a variety of leadership practices and skills through planning and implementing group service or other types of projects in the community and on campus. Required of all honors program students. **Prerequisite(s):* 16 credits of honors courses and preferably junior status. Register by Instructor.

The following disciplinary Honors courses are offered:

HCH H207 - HNR NPS Chemistry and Politics of Cancer and AIDS
4.00 credits. **(Natural and Physical Science Core Course - Honors)** This interdisciplinary course seeks to rectify the science of two deadly diseases with the public policy that has been established around these diseases. Many of us have preconceived notions about how we view AIDS and cancer, but does the actual biochemical basis of these diseases correlate well with their corresponding public policies? Register by Instructor.

HEN H243 - HNR American Visions: Cultural Dialogue in the U.S.
4.00 credits. A study of American cultural history with an emphasis on how popular culture, political and social history, and the fine arts reveal new ways of understanding American fiction in transitional eras. Register by Instructor.

HEN H252 - HNR HUM Irony, Humor, and Despair in Modern Literature
4.00 credits. **(Humanities Core Course - Honors)** An exploration of the relationship among several quintessential modern writers and an investigation of their use of humor and irony to stave off despair and affirm at least the value of artistic creation and the need for each of us to assert meaning in life. Register by Instructor.

HEN H253 - HNR Gaelic and Anglo-Irish Ireland
4.00 credits. A study of the intersection between the Gaelic and Anglo-Irish linguistic, cultural and literary traditions of Ireland. Besides exploring the past and present state of Gaelic language and culture, the class will focus on the impact of the older Gaelic heritage on English-language classics by writers such as Swift, Joyce, Yeats, Beckett and Heaney. Register by Instructor.

HES H215 - HNR Meteorology
4.00 credits. An introductory, yet comprehensive course about the atmosphere: causes, effects and geographic distribution of weather/climate. Scientific basis for meteorology, up to and including special emphasis on how the changing world of weather may affect our atmospheric environment. Hours: lecture/lab/discussion: 4. Register by Instructor.

HMA H270 - HNR History of Mathematics
4.00 credits. This course will examine the history of mathematical thought from ancient times to the 20th century. Emphasis will be placed on the history of mathematical topics typically covered in the high school or early college curriculum. The course will seek to foster an appreciation of the great theorems of mathematics and the imagination and brilliance of the mathematicians who conceived them. NOTE: This course will satisfy Mathematics Core AU for students enrolled prior to Fall 2013. Register by Instructor.

HMA H272 - HNR Ethnomathematics
4.00 credits. An interdisciplinary study of the relationship between mathematics and culture. The mathematical content includes topics from number systems, graph theory, algebra, probability and geometry, and the cultural component investigates the mutual influences of culture and math upon each other. This course includes a week-long trip to Mexico to explore Mayan ruins, culture and mathematics. Register by Instructor.

HMA H275 - HNR CE Mathematics in Music
4.00 credits. **(Creative Expression Core Course - Honors)** Participants will deepen and enrich their creative experience of music by learning about the principal ways that mathematical ideas are applied to the creation of music, and incorporating these ideas into their own creative repertoires. Of particular interest will be basic acoustical phenomena, tuning systems, and (especially) music theory and composition. Register by Instructor.

HRE H285 - HNR WCH Amish, Brethren, and Mennonites in the U.S. Since 1875
4.00 credits. **(Western Cultural Heritage Core Course - Honors) *A Guided Writing and Research Course.** An interdisciplinary study of the Amish, Brethren, and Mennonite experience (beliefs, history, practices) in the context of modern American culture. Primary attention focuses on understanding how these communities responded to

major modernizing developments in western culture since 1875—the industrial revolution, the modern state, individuation, conscription, the rise of technology, compulsory education, understandings of progress, and religious pluralism. The course will explore how such changes in western cultural heritage have encouraged assimilation, fragmentation, and in some cases reactionary (Old Order) movements within Anabaptist groups. Register by Instructor. Spring semester.

HRE H289 - HNR Communal and Utopian Societies
4.00 credits. This course will examine various types of communal societies, frequently known as utopian or intentional communities, that have sought to institute an ideal social order, a "heaven on earth." Historic and contemporary religious expressions of American communal development are emphasized. Case studies include the Ephrata Society, Brook Farm, Oneida, New Harmony, The Amana Colonies, the Hutterites, the Shakers, Reba Place Church and the Catholic Worker Movement, among others. Register by Instructor. Fall semester.

HSO H224 - HNR SSC The Amish in Modern Society
4.00 credits. **(Social Sciences Core Course - Honors) *A Guided Writing and Research Course.** Sociological theories and concepts will be used to analyze and compare Amish society with contemporary American society. Using concepts such as power, class, culture, gender, inequality, deviance, social control and technology, the course will explore fundamental differences between Amish society and modern life. The course will examine the Amish in the context of modern culture to explore questions about how societies construct values and organize social behavior, and how their members view the idea of progress, the impact of technology on human experience, and the roots of social well-being. Register by Instructor. Fall semester. *Students who have taken SO 364 may not take this course.

Program Variations and Options

In addition to majors and minors, Elizabethtown College offers a number of alternative learning opportunities both on and off campus. On-campus study includes special learning options that emphasize individual study and close work with a member of the faculty. Off-campus opportunities include internships or joint programs with academic institutions or clinical facilities.

Independent Study

Independent study is a way for students to pursue individual investigation and/or reading in an area of special interest or to advance competencies in their major/minor area. Independent study may not be a course that is offered in the College Catalog and is not used simply to assemble credits for graduation or to replace a course listed in the curriculum. Independent study also may not be used toward Core Program requirements.

Independent study is available to students with junior or senior status who have a minimum grade point average of 2.00. Students pursuing independent study can expect to do extensive research, reading, writing and/or creative work resulting in a major paper, presentation, work of art, or other project agreed upon by the supervising faculty member and the student.

The work is initiated by the student and progresses largely unsupervised. Independent studies usually are registered for between one to four credits per study. Normally, a student may carry only one independent study at a time or two independent studies at the discretion of the Independent Study Committee. A maximum of 12 credits of independent study can be applied toward graduation.

Independent study is not necessarily tied to the academic calendar (i.e., a project may be started or finished at any point). **The project must be submitted to the Independent Study Committee via the Office of Registration and Records prior to the registration period for the semester during which the independent study will begin, but**

no later than the end of the first day of classes. (Summer Independent Study projects are due in the Office of Registration and Records two weeks prior to finals week.) The registration period for fall semester is in April and the registration period for spring semester is in November. Following approval of the Independent Study Committee, the student must officially register the project with the Office of Registration and Records by the end of the first week of classes for the semester during which it will be completed (i.e., by the end of the Add Period). Forms are available in the Office of Registration and Records. Any requests for exceptions to the policy must be made to the Academic Standing Committee.

Directed Study

In contrast to independent study of a special topic, directed study is undertaken for a regular course in the curriculum that is not being offered in a given semester. This method of study should be used by the student who needs rather frequent conferences with the professor.

An additional surcharge of $100 per credit is assessed for the full-time student who registers for directed study. Part-time students granted permission to register for a directed study course pay the same surcharge. Full-time undergraduate students whose course load exceeds 18 hours as a result of the directed study registration are charged the current part-time rate for tuition for those hours in excess of 18 plus the surcharge for all directed study credits. **Note: Students must register for directed studies prior to beginning course work and no later than the end of the first week of classes (i.e., during the official Add Period for the semester).** Registration forms are available in the Office of Registration and Records.

Tutorials

The tutorial is used to register a course that is not offered in the Catalog. In this respect, it is different from a Directed Study, which is used to register a course that is in the Catalog but is not offered in a given semester. The tutorial is also different from the Independent Study. With an Independent Study, the student is responsible for proposing the content of the project (which is not in the Catalog) and then works largely independently on the project of their design. **With a Tutorial, the faculty member is responsible for developing the content of the course and then works closely with the student to provide instruction in the topic.** Tutorials must be registered during the regular course Add Period and are assigned a 379 course number. An additional surcharge of $150 per credit is assessed for the full-time student who registers for a tutorial. Full-time undergraduate students whose course load exceeds 18 hours as a result of a tutorial registration are charged the current part-time rate for tuition for those hours in excess of 18.

Internships

Through internships, Elizabethtown College offers students the opportunity to apply and augment their classroom learning with real-world experience. Internships can assist students with deepening and sharpening their personal learning and career goals. They provide opportunities for students to demonstrate their knowledge in work and practice settings, gaining confidence and skill as they integrate the abstract/theoretical with the practical and applied.

Guidelines

Internships will be registered in the Academic Department of the supervising faculty member.

Internships will normally be graded Pass/No Pass. Departmental exceptions must be approved by Academic Council and be noted in the Catalog as letter-graded experiences.

Students enrolling in internships must have minimum cumulative and major grade point averages of 2.00. If a Department sets a higher grade point average standard, and if the internship is required for graduation, the higher standard must be approved by Academic Council.

Internships must be registered during the semester in which the work is completed. In the case when internship hours clearly overlap two terms (e.g., begins in April and ends in June), the registration of the internship can be split (e.g., two credits registered in the spring term and two credits registered in the summer term for an internship experience that is four total credits). Summer internships cannot be registered during spring or fall semesters.

An internship can be taken for up to 12 credits. To be awarded academic credit, students must work a minimum of 40 hours over the course of the term in which the internship is registered for each credit awarded. This is a minimum expectation; some Departments or internship sites may have higher work expectations. At least two-thirds of these hours should be spent at the internship site, with the remaining one-third spent on related activities.

Each Department will establish its own criteria for related activities and expectations for awarding academic credit to internships, including whether students can engage in multiple internships over the course of their college career and the maximum number of credits that students in their programs can accrue through internships.

To prevent potential conflicts of interest, students must disclose any familial relationships with employees or owners of the organization at which they want to intern. Students may not intern at a company owned or managed, fully or in part, by a family member, nor may the on-site supervisor be a member of the student's family or anyone working under supervision of a family member. In addition, continuation of a part-time or summer job may not serve as an internship. Any exceptions to these prohibitions would be unusual and require the approval by the Associate Academic Dean.

All internships must have a faculty supervisor and an on-site supervisor. The intern must have regular contact with the on-site supervisor during the term of the internship. At the end of the internship, the on-site supervisor will be asked to submit a written evaluation to the faculty supervisor, describing the work and responsibilities of the intern and providing an evaluation of the intern's level of performance and progress during the internship.

Internships must be registered no later than the third Friday of the regular fall or spring term. This additional registration time is provided to enable students to collect their on-site supervisor's signature on the Internship Contract form. For summer internships, registration must be by the end of the first week of the internship.

The Internship Contract or syllabus must specify the goals and objectives of the internship, the activities necessary to reach those goals, and the methods by which the student will be evaluated. An Internship Contract must be signed by the student, the on-site supervisor and the faculty supervisor.

Consult the appropriate Academic Department for more detail on its internship policy.

Affiliated Institution Programs

In Affiliated Institution Programs, students study at Elizabethtown College and at affiliated academic institutions or clinical facilities in the United States. The following programs are offered in conjunction with other academic institutions:

Forestry with Duke University's Nicholas School of the Environment and Earth Sciences

Cardiovascular Invasive Specialty with the Lancaster Institute for Health Education

Biology health professions and pre-allied health with Thomas Jefferson University and with Widener University

Premedical Primary Care Program with The Pennsylvania State University College of Medicine

Osteopathic Medicine with the Philadelphia College of Osteopathic Medicine

Dental Medicine with Temple University School of Dentistry (D.M.D.)

Biotechnology (B.S.) and Molecular Medicine (M.S.) with Drexel University College of Medicine

3+4 Doctor of Optometry Program with Pennsylvania College of Optometry at Salus University

Washington Semester and World Capitals Program with American University. The Washington Semester provides an opportunity to study in Washington, D.C., and take advantage of the resources of the nation's capital. Students in the program work with the policymakers and business professionals who play a vital role in American government and culture. Full semester credit is earned by studying in one of 10 areas: American politics, international politics, peace and conflict resolution, economic policy, journalism, justice, international business and trade, international environment/development, public law, and transforming communities. All programs include internships, and several involve three weeks of study abroad. Students interested in the program should contact Dr. Fletcher McClellan in the Department of Political Science. Students participating in the program must acquire off-campus course approvals from the Office of Registration and Records.

The College also offers a number of majors in which work at affiliated clinical facilities constitutes an important part of the student's education. In music therapy, occupational therapy, social work and clinical laboratory sciences, students combine work at the College with first-hand experience in hospitals, clinics, and social work and therapy programs. For detailed descriptions, see the appropriate Department for more information.

Study Abroad Programs

Elizabethtown College, through the Study Abroad Office, provides guidance and support to students in all majors who want to study abroad in a semester, summer, or short term program. The Study Abroad Office promotes, supports and coordinates all study abroad programming and works with faculty to encourage overseas experiences.

Students may participate in a wide variety of semester-long, study abroad opportunities with our affiliated provider programs, which currently include BCA Study Abroad; CIS Abroad; The School for Field Studies; Globalinks; KCP International; Nihon University; Northumbria University; The Gambia-Saint Mary's College of Maryland; and Queen's University Bader Center. More information about applying to participate in study abroad programs can be found on the study abroad website at www.etown.edu/offices/study-abroad or in the Academic Policies section of this Catalog.

In addition to these opportunities, Elizabethtown faculty members regularly lead short-term educational experiences to locations around the world to make international study more accessible to our students. These programs typically provide credits to students who successfully complete all the requirements. In past years, faculty-led, short-term programs have traveled to China, Costa Rica, the Czech Republic, Denmark, Ecuador, France, Honduras, Ireland, Japan, Spain, Switzerland, Thailand and Vietnam. More information on those programs for which students can earn credit is contained on the Study Abroad Office webpage.

For more information about the Office of Study Abroad Programs, please visit www.etown.edu/offices/study-abroad.

English Language Learning Program

The English Language Learning Program at Elizabethtown supports an increasingly diverse group of students from around the world who wish to immerse themselves in the rich learning environment available at Elizabethtown College. Students will be taken from their current level of English language mastery to advanced levels of mastery, enabling full integration into the complete range of curricular and co-curricular programs. Specifically, the English Language Learning (ELL) courses will:

- Advance students' English speaking, writing, reading, and comprehension proficiency
- Foster critical thinking skills
- Instill intellectual curiosity and interest in further learning
- Introduce American culture and expectations of the Elizabethtown College community
- Provide opportunities for integration of diverse world views
- Prepare students for success in degree program coursework

International students who are non-native speakers of English are eligible for English Language Learning courses. A minimum official TOEFL (or equivalent test) score is required for admission as we do not offer Beginner or Low Intermediate English Language courses (see "Admission to the College"). Upon arrival at the campus, all students who are non-native speakers of English will be given a placement test to determine the appropriate level of ELL or EN classes. The following ELL courses are offered and are required of students whose placement test results indicate that greater proficiency is needed before full integration into degree coursework.

Courses Offered at the Intermediate Level:

ELL 111 - Intermediate Reading and Comprehension
4.00 credits. The focus of this course is on developing reading skills and acquiring strategies to learn from texts. Students will be expected to read, take notes, and demonstrate comprehension through discussion and short written assignments. Students will read a variety of short selections, both fiction and nonfiction and will keep a weekly vocabulary journal. *Credits are not applicable to the 125 required for graduation with a bachelor's degree.* Fall semester.

ELL 112 - Intermediate Writing and Composition
4.00 credits. The focus of this course is on learning to write in order to effectively communicate ideas and opinions. Students will gain fluency in the process of writing with emphasis on mechanics and grammar. Students will learn how to organize ideas, write and revise drafts, and edit written material. Students will also be able to take notes and write summaries of information heard or read. *Credits are not applicable to the 125 required for graduation with a bachelor's degree.* Fall semester.

ELL 113 - Intermediate Listening and Speaking
4.00 credits. The focus of this course is on listening and speaking in academic and social settings. Students will learn to distinguish speaker's intentions, identify important spoken information from a variety of contexts (lecture, video, audio), infer meaning of unfamiliar words or phrases from the context of the conversation, and respond appropriately to spoken requests. Students will also learn to articulate clearly, infer whether their listener comprehends their speech, and make adjustments where needed to engage successfully in conversation. Students will also gain experience taking notes from oral presentations and video. *Credits are not applicable to the 125 required for graduation with a bachelor's degree.* Fall semester.

ELL 114 - Intermediate Seminar on American Culture
4.00 credits. This course focuses on American culture, with emphasis on the local heritage and customs. Students will have opportunities to experience, discuss, and interpret local culture through lectures, performances, discussions, and field trips. They will be introduced to all campus resources and will select a student club or organization to investigate or join. *Credits are not applicable to the 125 required for graduation with a bachelor's degree.* Fall semester.

Courses Offered at the High Intermediate Level:

ELL 151 - High Intermediate Reading and Comprehension
4.00 credits. The focus of this course is continued development of reading skills and comprehension. Students will be expected to read, take notes, and demonstrate comprehension through discussion and written assignments. Students will read from increasingly complex text sources. **Prerequisite(s):* Appropriate placement or completion of ELL 111 with a grade of B- or higher. *Credits are not applicable to the 125 required for graduation with a bachelor's degree.*

ELL 152 - High Intermediate Writing for Academic Purposes
4.00 credits. The focus of this course is on strengthening students' writing for academic purposes. Students will write more complex essays and learn different styles of writing. They will begin to expand their writing to take into account their audience and their purpose. Editing and revision will be major components of the course. **Prerequisite(s):* Appropriate placement or completion of ELL 112 with a grade of B- or higher. *Credits are not applicable to the 125 required for graduation with a bachelor's degree.*

ELL 153 - High Intermediate Conversation and Discussion
4.00 credits. This course extends students' conversational abilities to a variety of settings and tasks. Students will be able to follow multi-step instructions, respond to oral requests for elaboration, and discuss ideas one-on-one and in small group settings. Students will also strengthen their English pronunciation and will be expected to do regular in-class oral presentations. **Prerequisite(s):* Appropriate placement or completion of ELL 113 with a grade of B- or higher. *Credits are not applicable to the 125 required for graduation with a bachelor's degree.*

ELL 154 - High Intermediate Seminar on Comparative Culture
4.00 credits. This course focuses on changes over time in American culture and how American culture has been influenced by other cultures. Students will have opportunities to experience, discuss, and interpret a variety of cultures through lectures, performances, discussions, film, and fieldtrips. They will write reflective essays on these activities and relate them to their own or another culture. **Prerequisite(s):* Appropriate placement or completion of ELL 114 with a grade of B- or higher. *Credits are not applicable to the 125 required for graduation with a*

Courses Offered at the Advanced Level:

Refer to Department of Modern Languages for ESL 111 / ESL 112 courses.

Elizabethtown College School of Continuing and Professional Studies

The School of Continuing and Professional Studies (SCPS) offers a variety of academic degree programs at the undergraduate and graduate level for adults. The SCPS delivers its programming at multiple locations including the Elizabethtown main campus, Harrisburg at the Dixon University Center, Lancaster at College Square on Harrisburg Pike, HACC Lancaster Campus, in York on St. Charles Way, and online.

The School extends the boundaries of the College's learning community to include a wider and more diverse population. The School expresses the values of the College's mission through a commitment to and advocacy of degree and non-degree academic programs for adult learners. In particular, the School embraces the values of human dignity and social justice by widening access to quality higher education for adults. In its programs and outreach, the School fosters a learner-centered academic culture that expresses the School's belief that learning is lifelong and most noble when used to benefit others.

The Middle States Association of Colleges and Secondary Schools accredits SCPS programs. The School has not sought accreditation through the Association of Collegiate Business Schools and Programs.

For more information, please call (717) 361-1411 or visit www.etowndegrees.com.

Department of Biology

Cavender (Chair), Bowne, Bridge, Cecala, Coren, Murray, Wohl, Yorty

For more information, please visit the Department's website or check your course syllabi, which are available through the course instructor or at the High Library.

The courses of the Department of Biology provide a foundation in basic concepts and principles involving the structural, functional and environmental aspects of the living world. The courses provide the student with a broad and unifying understanding of nature's life forms. The Department involves students in research studies with professors through independent study projects, internships and a senior seminar.

Majors Offered

The Biology Department offers majors in **Biology**, **Biotechnology** and **Environmental Science**. Four concentrations are available to students pursuing a Biology major: Biological Sciences, Premedicine, Allied Health and **Secondary Education (Biology Education)**. The Biology Department also participates in the interdisciplinary **General Science Secondary Education** major.

Cooperative Programs with Other Institutions

The Biology Department participates in several **cooperative programs**.

Minors Offered

The Department of Biology offers a **Biology minor**. The Department also participates in the interdisciplinary **General Science minor** and the **Cognitive Science minor**.

Honors in the Discipline

The Department of Biology participates in the College Honors in the Discipline Program. For guidelines, students should consult the Department Chair.

Biology (B.S.)

This curriculum prepares students for the rigors of graduate school, professional schools of medicine and allied health, and biologically oriented employment opportunities. Four concentrations are available to students pursuing a Bachelor of Science in Biology: **Biological Sciences**, **Premedicine**, **Allied Health** and Secondary Education (Biology Education).

Biological Sciences concentration

Student Learning Outcomes for Biological Sciences concentration:

Students will be able to:

- Recall, integrate, and apply information from multiple biological fields, including genetics, molecular biology, cell biology, physiology, organismal diversity, evolutionary biology, ecology, mathematics, chemistry and/or physics.

- Effectively research, synthesize and communicate scientific information.
- Design and carry out experiments to address biological questions.
- Critically analyze and formulate logical conclusions from data.
- Effectively demonstrate common laboratory techniques, doing so in accordance with accepted safety standards.

The **Biological Sciences concentration** prepares the student for a biologically related profession or for graduate school. The specific requirements are:

- BIO 111 - Molecules, Cells, and Animal Systems
- BIO 112 - Principles of Evolution, Ecology, and Diversity of Life
- BIO 211 - Genetics
- BIO 324 - General Physiology
- BIO 324L - General Physiology Laboratory
- BIO 412 - Seminar in Biology
- CH 105 - NPS Fundamentals of Chemistry: Introduction to Molecular Science
- CH 113 - Organic Chemistry I
- CH 114 - Organic Chemistry II
- (If a fourth chemistry course is required, CH 242 is recommended.)

- BIO 313 - General Ecology and
- BIO 313L - General Ecology Laboratory
  or
- BIO 317 - Aquatic Ecology

- MA 117 - Concepts of Calculus or
- MA 121 - MA Calculus I or
- MA 251 - MA Probability and Statistics

- PHY 103 - General Physics I or
- PHY 200 - College Physics I
- (If a second physics course is required, choose from PHY 104 or PHY 201.)

At least 15 credits from:

- BIO 212 - Cell Biology and
- BIO 212L - Cell Biology Laboratory

- BIO 220 - Nutrition
- BIO 225 - Geographic Information Systems: Fundamentals and Applications
- BIO 235 - General Microbiology

- BIO 310 - Molecular Biology and
- BIO 310L - Molecular Biology Laboratory

- BIO 311 - Experimental Design in Cell Biology
- BIO 314 - Behavioral Neurobiology

- BIO 318 - Marine Biology
- BIO 320 - Conservation Biology

- BIO 322 - Immunology and
- BIO 322L - Immunology Laboratory

- BIO 336 - Pathogenic Microbiology and
- BIO 336L - Pathogenic Microbiology Lab

- BIO 341 - Comparative Mammalian Anatomy
- BIO 347 - Invertebrate Zoology

- BIO 352 - Developmental Biology and
- BIO 352L - Developmental Biology Laboratory

- BIO 362 - Ecotoxicology

Premedicine concentration

Student Learning Outcomes for Premedicine concentration:

Students will be able to:

- Recall, integrate, and apply information from fields relevant to human health, including genetics, molecular biology, cell biology, anatomy, physiology, evolutionary biology, ecology, mathematics, chemistry and/or physics.

- Effectively research, synthesize and communicate scientific information.

- Design and carry out experiments to address biological questions.

- Critically analyze and formulate logical conclusions from data.

- Effectively demonstrate common laboratory techniques, doing so in accordance with accepted safety standards.

The **Premedicine concentration** prepares the student for entry into professional schools of medicine and related fields such as dentistry, osteopathic medicine, veterinary medicine, optometry and podiatric medicine. The specific requirements are:

- BIO 111 - Molecules, Cells, and Animal Systems
- BIO 112 - Principles of Evolution, Ecology, and Diversity of Life
- BIO 211 - Genetics
- BIO 324 - General Physiology
- BIO 324L - General Physiology Laboratory
- BIO 341 - Comparative Mammalian Anatomy
- BIO 412 - Seminar in Biology
- CH 105 - NPS Fundamentals of Chemistry: Introduction to Molecular Science
- CH 113 - Organic Chemistry I
- CH 114 - Organic Chemistry II
- CH 323 - Biochemistry I

- PSY 105 - SSC General Psychology
- SO 101 - SSC Discovering Society

- BIO 313 - General Ecology and
- BIO 313L - General Ecology Laboratory
  or
- BIO 317 - Aquatic Ecology

- CH 214 - Chemical Instrumentation or
- CH 242 - Physical Inorganic Chemistry

- MA 117 - Concepts of Calculus or
- MA 121 - MA Calculus I or
- MA 251 - MA Probability and Statistics

- PHY 103 - General Physics I and
- PHY 104 - General Physics II
  or
- PHY 200 - College Physics I and
- PHY 201 - College Physics II

At least 11 credits from:

- BIO 212 - Cell Biology
- BIO 220 - Nutrition
- BIO 235 - General Microbiology

- BIO 310 - Molecular Biology and
- BIO 310L - Molecular Biology Laboratory

- BIO 311 - Experimental Design in Cell Biology
- BIO 314 - Behavioral Neurobiology
- BIO 318 - Marine Biology

- BIO 322 - Immunology and
- BIO 322L - Immunology Laboratory

- BIO 336 - Pathogenic Microbiology and
- BIO 336L - Pathogenic Microbiology Lab

- BIO 347 - Invertebrate Zoology

- BIO 352 - Developmental Biology and
- BIO 352L - Developmental Biology Laboratory

- BIO 362 - Ecotoxicology

Specific schools may require additional courses.

For example, all pre-veterinary medicine students should schedule courses in biochemistry and microbiology. Students interested in the premedical program should consult the Chair of the Health Professions Advisory Committee. The Committee serves the following functions: 1) work jointly with premedical students and their major advisors to ensure that all prerequisites are met for entry into schools of medicine; 2) advise students on registration and preparation for medical school admissions tests; 3) assist students in the preparation and submission of applications to medical schools; 4) draft a composite letter of evaluation and endorsement for worthy candidates and forward this information to appropriate medical school admissions committees; 5) offer assistance in preparing for medical school interviews; 6) solicit and collect literature that will aid students to plan financially for their medical training; and 7) maintain statistics on medical school placement for advising and administrative purposes.

Allied Health concentration

Student Learning Outcomes for Allied Health concentration:

Students will be able to:

- Recall, synthesize, and apply material from multiple disciplines including biology, mathematics, chemistry and/or physics.
- Effectively research, synthesize and communicate scientific information.
- Design and carry out experiments to address biological questions.
- Critically analyze and formulate logical conclusions from data.
- Effectively demonstrate common laboratory techniques, doing so in accordance with accepted safety standards.

The **Allied Health concentration** prepares the student for entry into the professional allied health science programs of Thomas Jefferson University, Widener University and, after three years, other accredited pre-approved programs. Students interested in this program should consult Dr. Jonathon Coren and refer to the cooperative programs.

Major courses:

- BIO 111 - Molecules, Cells, and Animal Systems
- BIO 112 - Principles of Evolution, Ecology, and Diversity of Life
- BIO 201 - Human Anatomy and Physiology I
- BIO 202 - Human Anatomy and Physiology II
- BIO 211 - Genetics
- One biology course (Maximum of 4 credits applied to major. All additional credits will be considered free elective credits.)
- CH 105 - NPS Fundamentals of Chemistry: Introduction to Molecular Science
- CH 113 - Organic Chemistry I
- CH 114 - Organic Chemistry II

- MA 110 - College Algebra and Trigonometry or
- MA 117 - Concepts of Calculus or
- MA 121 - MA Calculus I

- MA 251 - MA Probability and Statistics
- PHY 103 - General Physics I

- PHY 104 - General Physics II
- PSY 105 - SSC General Psychology

- PSY 221 - Abnormal Psychology or
- PSY 225 - Developmental Psychology

Fourth year on campus (Biology - Allied Health, otherwise Biology - Allied Health 3+3

- BIO 313 - General Ecology and
- BIO 313L - General Ecology Laboratory
  or
- BIO 317 - Aquatic Ecology

- BIO 412 - Seminar in Biology
- Two biology electives

Biology Cooperative Programs with Other Institutions (B.S.)

The Biology Department participates in several cooperative programs.

Premedical Primary Care Program with Pennsylvania State University College of Medicine

Through an agreement with **The Pennsylvania State University College of Medicine**, select students may be admitted to **Penn State's Premedical Primary Care Program**, allowing them to pursue careers as primary care physicians. This program gives these students the option for automatic matriculation to The Pennsylvania State University College of Medicine upon completing the Bachelor of Science degree requirements. For acceptance criteria, contact the Health Professions Advisory Committee of Elizabethtown College.

Elizabethtown College is one of a select group of colleges that participates in **The Pennsylvania State University College of Medicine's Primary Care Pre-Admissions Program** at the Milton S. Hershey Medical Center. The program was established to encourage undergraduate students to pursue careers in internal medicine, family practice and pediatrics by providing students with mentoring, primary care and pre-clinical experience. Through an agreement with The Pennsylvania State University College of Medicine, select students may be admitted to Penn State's Premedical Primary Care Program, allowing them to pursue careers as primary care physicians. This program gives these students the option for automatic matriculation to The Pennsylvania State University College of Medicine upon completing a Bachelor's degree and maintaining competitive grade point average and Medical College Admissions Test scores as stipulated by The Pennsylvania State University College of Medicine.

Students in this program may pursue any major but must complete the required courses listed below. The student must accumulate a minimum GPA of 3.5 in biology, chemistry, and physics courses and a minimum overall GPA of 3.5 by the end of his or her junior year of college. Students must complete two Family Practice Practicum coordinated by the Health Professions Advisor Committee of Elizabethtown College and/or the Pennsylvania State University College of Medicine.

The Pennsylvania State University College of Medicine also offers the following: a) a Primary Scholars Program, in which students spend two weeks at Hershey participating in lectures, seminars and clinical experiences; b) a Primary Care Summer Academic Program for minority students and students from rural and medically underserved areas; and c) a Primary Care Mentoring Program, through which students are assigned a mentor, a preceptor or faculty affiliate of The Pennsylvania State University College of Medicine, who is located in the same town or region as the student. To apply for acceptance into programs, students must meet criteria established by The Pennsylvania State

University College of Medicine and apply through the Health Professions Advisory Committee of Elizabethtown College. For program information and admissions requirements, contact Dr. Diane Bridge.

Required courses at Elizabethtown College:

- BIO 111 - Molecules, Cells, and Animal Systems
- BIO 112 - Principles of Evolution, Ecology, and Diversity of Life
- CH 105 - NPS Fundamentals of Chemistry: Introduction to Molecular Science
- CH 113 - Organic Chemistry I
- CH 114 - Organic Chemistry II
- CH 323 - Biochemistry I
- MA 251 - MA Probability and Statistics
- PSY 105 - SSC General Psychology
- SO 101 - SSC Discovering Society

- CH 214 - Chemical Instrumentation or
- CH 242 - Physical Inorganic Chemistry

- PHY 103 - General Physics I and
- PHY 104 - General Physics II
  OR
- PHY 200 - College Physics I and
- PHY 201 - College Physics II

- MA 117 - Concepts of Calculus or
- MA 121 - MA Calculus I

Osteopathic Medicine/B.S. 3+3 or 4+4 Program with Philadelphia College of Osteopathic Medicine (PCOM)

Elizabethtown College has an agreement for preferred admission to **Philadelphia College of Osteopathic Medicine** (PCOM) following either three years (3+4 program) or four years (4+4 program) at Elizabethtown College. If admitted to PCOM, students in the 3+4 program are granted a baccalaureate degree from Elizabethtown College following completion of the first year of courses at PCOM with grades of C or higher. For the 3+4 program, the student must have a GPA of at least 3.1 in science courses and an overall GPA of at least 3.1 by the end of his or her sophomore year of college. For the 4+4 program, the student must have a GPA of at least 3.0 in science courses and an overall GPA of at least 3.0 by the end of his or her junior year of college. Students in both programs must complete the courses listed below and must pursue a major at Elizabethtown which leads to a bachelor of science degree in Biology, Biochemistry (3+4 and 4+4 options), or Chemistry (4+4 option only). For program information and admissions requirements, contact Dr. Diane Bridge.

Major courses for first three years on campus:

- BIO 111 - Molecules, Cells, and Animal Systems
- BIO 112 - Principles of Evolution, Ecology, and Diversity of Life
- BIO 211 - Genetics
- BIO 324 - General Physiology
- BIO 324L - General Physiology Laboratory
- CH 105 - NPS Fundamentals of Chemistry: Introduction to Molecular Science
- CH 113 - Organic Chemistry I

- CH 114 - Organic Chemistry II
- CH 242 - Physical Inorganic Chemistry
- CH 323 - Biochemistry I
- PSY 105 - SSC General Psychology
- SO 101 - SSC Discovering Society

- PHY 103 - General Physics I and
- PHY 104 - General Physics II
  or
- PHY 200 - College Physics I and
- PHY 201 - College Physics II

- MA 117 - Concepts of Calculus or
- MA 121 - MA Calculus I or
- MA 251 - MA Probability and Statistics

- EN 100 - PLE Writing and Language or
- EN 150 - PLE Advanced Writing and Language

Take 7 or 8 credits from the following:

- BIO 212 - Cell Biology
- BIO 220 - Nutrition
- BIO 235 - General Microbiology

- BIO 310 - Molecular Biology and
- BIO 310L - Molecular Biology Laboratory

- BIO 311 - Experimental Design in Cell Biology
- BIO 318 - Marine Biology

- BIO 322 - Immunology and
- BIO 322L - Immunology Laboratory

- BIO 336 - Pathogenic Microbiology and
- BIO 336L - Pathogenic Microbiology Lab

- BIO 347 - Invertebrate Zoology

- BIO 352 - Developmental Biology and
- BIO 352L - Developmental Biology Laboratory

- BIO 362 - Ecotoxicology

If fourth year is completed at Elizabethtown College:

- BIO 313 - General Ecology and
- BIO 313L - General Ecology Laboratory

or

- BIO 317 - Aquatic Ecology

- BIO 412 - Seminar in Biology

Take 7 or 8 credits from the following (at least 15 Biology elective credits total are required):

- BIO 212 - Cell Biology
- BIO 220 - Nutrition
- BIO 235 - General Microbiology

- BIO 310 - Molecular Biology and
- BIO 310L - Molecular Biology Laboratory

- BIO 311 - Experimental Design in Cell Biology
- BIO 318 - Marine Biology

- BIO 322 - Immunology and
- BIO 322L - Immunology Laboratory

- BIO 336 - Pathogenic Microbiology and
- BIO 336L - Pathogenic Microbiology Lab

- BIO 347 - Invertebrate Zoology

- BIO 352 - Developmental Biology and
- BIO 352L - Developmental Biology Laboratory

- BIO 362 - Ecotoxicology

Doctor of Dental Medicine/B.S. 3+4 Program with Temple University's School of Dentistry

Through an articulation agreement with **Temple University's School of Dentistry**, qualified students can pursue a 3+4 program leading to a bachelor's degree from Elizabethtown and a Doctor of Dental Medicine (DMD) degree from Temple. For program information and admissions requirements, contact Dr. Diane Bridge.

Major courses for first three years on campus:

Students must complete one year of biology; organic chemistry; inorganic chemistry by the end of their sophomore year. In addition, students must complete one year of physics with associated laboratories by the end of their junior year. GPA must be a 3.2 in the major and overall.

- BIO 111 - Molecules, Cells, and Animal Systems
- BIO 112 - Principles of Evolution, Ecology, and Diversity of Life
- BIO 211 - Genetics
- BIO 324 - General Physiology
- BIO 324L - General Physiology Laboratory
- CH 105 - NPS Fundamentals of Chemistry: Introduction to Molecular Science
- CH 113 - Organic Chemistry I

- CH 114 - Organic Chemistry II
- CH 242 - Physical Inorganic Chemistry

- PHY 103 - General Physics I and
- PHY 104 - General Physics II
  or
- PHY 200 - College Physics I and
- PHY 201 - College Physics II

- MA 117 - Concepts of Calculus or
- MA 121 - MA Calculus I or
- MA 251 - MA Probability and Statistics

- EN 100 - PLE Writing and Language or
- EN 150 - PLE Advanced Writing and Language

Take 7 or 8 credits from the following:

- BIO 212 - Cell Biology
- BIO 220 - Nutrition
- BIO 235 - General Microbiology

- BIO 310 - Molecular Biology and
- BIO 310L - Molecular Biology Laboratory

- BIO 311 - Experimental Design in Cell Biology
- BIO 318 - Marine Biology

- BIO 322 - Immunology and
- BIO 322L - Immunology Laboratory

- BIO 336 - Pathogenic Microbiology and
- BIO 336L - Pathogenic Microbiology Lab

- BIO 341 - Comparative Mammalian Anatomy
- BIO 347 - Invertebrate Zoology

- BIO 352 - Developmental Biology and
- BIO 352L - Developmental Biology Laboratory

- BIO 362 - Ecotoxicology

If fourth year is completed at Elizabethtown College:

- BIO 313 - General Ecology and
- BIO 313L - General Ecology Laboratory
  or
- BIO 317 - Aquatic Ecology

- BIO 412 - Seminar in Biology

Take 7 or 8 credits from the following:

At least 15 biology elective credits total are required.

- BIO 212 - Cell Biology
- BIO 220 - Nutrition
- BIO 235 - General Microbiology

- BIO 310 - Molecular Biology and
- BIO 310L - Molecular Biology Laboratory

- BIO 311 - Experimental Design in Cell Biology
- BIO 318 - Marine Biology

- BIO 322 - Immunology and
- BIO 322L - Immunology Laboratory

- BIO 336 - Pathogenic Microbiology and
- BIO 336L - Pathogenic Microbiology Lab

- BIO 341 - Comparative Mammalian Anatomy
- BIO 347 - Invertebrate Zoology

- BIO 352 - Developmental Biology and
- BIO 352L - Developmental Biology Laboratory

- BIO 362 - Ecotoxicology

Doctor of Optometry/B.S. 3+4 Program with Pennsylvania College of Optometry at Salus University

The agreement allows two students per year to apply to the Pennsylvania College of Optometry Doctor of Optometry Program at the end of their second year. To apply through the program, students must have at least a 3.3 overall GPA both at the time of application and during their third year. In order to be prepared for the OAT exam after the second year, students need to complete their chemistry and physics requirements as well as a year of biology. If accepted, students [will enter] the program following their third year. After the completion of their first year at Salus, Elizabethtown College will accept transfer credits for classes at Salus for completion of the students' undergraduate degree. Students need to complete their Core requirements during their three years at Elizabethtown before beginning their courses at Salus.

Major courses for first three years on campus:

- BIO 111 - Molecules, Cells, and Animal Systems
- BIO 112 - Principles of Evolution, Ecology, and Diversity of Life
- BIO 211 - Genetics
- BIO 235 - General Microbiology
- BIO 324 - General Physiology

- BIO 324L - General Physiology Laboratory
- CH 105 - NPS Fundamentals of Chemistry: Introduction to Molecular Science
- CH 113 - Organic Chemistry I
- CH 114 - Organic Chemistry II
- CH 242 - Physical Inorganic Chemistry
- PHY 103 - General Physics I
- PHY 104 - General Physics II
- PSY 105 - SSC General Psychology

- MA 117 - Concepts of Calculus or
- MA 121 - MA Calculus I or
- MA 251 - MA Probability and Statistics

- EN 100 - PLE Writing and Language or
- EN 150 - PLE Advanced Writing and Language

Take 3 or 4 credits from the following:

- BIO 212 - Cell Biology
- BIO 220 - Nutrition

- BIO 310 - Molecular Biology and
- BIO 310L - Molecular Biology Laboratory

- BIO 311 - Experimental Design in Cell Biology
- BIO 314 - Behavioral Neurobiology
- BIO 318 - Marine Biology

- BIO 322 - Immunology and
- BIO 322L - Immunology Laboratory

- BIO 336 - Pathogenic Microbiology and
- BIO 336L - Pathogenic Microbiology Lab

- BIO 341 - Comparative Mammalian Anatomy
- BIO 347 - Invertebrate Zoology

- BIO 352 - Developmental Biology and
- BIO 352L - Developmental Biology Laboratory

- BIO 362 - Ecotoxicology

If fourth year is completed at Elizabethtown College:

- BIO 313 - General Ecology and
- BIO 313L - General Ecology Laboratory
  or
- BIO 317 - Aquatic Ecology

- BIO 412 - Seminar in Biology

Take 7 or 8 credits from the following (at least 15 Biology elective credits total are required):

- BIO 212 - Cell Biology
- BIO 220 - Nutrition

- BIO 310 - Molecular Biology and
- BIO 310L - Molecular Biology Laboratory

- BIO 311 - Experimental Design in Cell Biology
- BIO 314 - Behavioral Neurobiology
- BIO 318 - Marine Biology

- BIO 322 - Immunology and
- BIO 322L - Immunology Laboratory

- BIO 336 - Pathogenic Microbiology and
- BIO 336L - Pathogenic Microbiology Lab

- BIO 341 - Comparative Mammalian Anatomy
- BIO 347 - Invertebrate Zoology

- BIO 352 - Developmental Biology and
- BIO 352L - Developmental Biology Laboratory

- BIO 362 - Ecotoxicology
- BIO 491 - Research in Biology
- BIO 492 - Research in Biology

Masters in Molecular Medicine/B.S. in Biotechnology 4+1 Program with Drexel University College of Medicine

Through an agreement with **Drexel University College of Medicine** (DUCOM), students can earn both the **Bachelor of Science (BS) in Biotechnology and Masters (MS) in Molecular Medicine** degrees in 5 years after graduation from high school. Students will spend their first four years at Elizabethtown College fulfilling the requirements for the Biotechnology major, core curriculum and the essential prerequisites for entry into the Drexel graduate program. During the fourth year of the program, students remain at Elizabethtown and enroll in 9 credits per semester of online or webcasted graduate classes and seminars offered by Drexel University College of Medicine; these are listed as Elizabethtown courses. To maintain their full-time student status in the fourth year, students will conduct a minimum of 2-4 credits of independent research and/or finish any requirements while taking the Drexel courses. A BS in Biotechnology from Elizabethtown College will be awarded after successful completion of the fourth year of the program assuming all other College requirements have been met. For the fifth year, students will matriculate at Drexel University, transfer to the university's Philadelphia campus and complete the requirements for the MS degree in Molecular Medicine. For program information and admissions requirements, contact Dr. Jane Cavender.

- BIO 111 - Molecules, Cells, and Animal Systems

- BIO 112 - Principles of Evolution, Ecology, and Diversity of Life
- BIO 211 - Genetics
- BIO 212 - Cell Biology
- BIO 212L - Cell Biology Laboratory
- BIO 235 - General Microbiology
- BIO 310 - Molecular Biology
- BIO 310L - Molecular Biology Laboratory
- BIO 311 - Experimental Design in Cell Biology
- BIO 324 - General Physiology
- BIO 324L - General Physiology Laboratory
- CH 105 - NPS Fundamentals of Chemistry: Introduction to Molecular Science
- CH 113 - Organic Chemistry I
- CH 114 - Organic Chemistry II

- CH 323 - Biochemistry I or
- Biology elective

- CH 324 - Biochemistry II or
- Biology elective

- PHY 103 - General Physics I

- MA 117 - Concepts of Calculus or
- MA 121 - MA Calculus I or
- MA 251 - MA Probability and Statistics

Fourth year at Elizabethtown:

- BIO 412 - Seminar in Biology
- BIO 491 - Research in Biology
- BIO 492 - Research in Biology
- BIO 527 - Fundamentals of Molecular Medicine IV – Immunology and Immunopathology
- BIO 530 - Fundamentals in Molecular Medicine I
- BIO 531 - Fundamentals in Molecular Medicine II
- BIO 533 - Fundamentals of Molecular Medicine V – Research Discussion and Problem Solving I
- BIO 534 - Fundamentals of Molecular Medicine VI
- BIO 540 - Virus and Viral Infections
- BIO 541 - Bacteria and Bacterial Infections
- BIO 542 - Mycology, Fungal Infections and Antibiotics
- BIO 543 - Parasites and Parasitic Infections

Doctor of Physical Therapy/B.S. 3+3 Program with Thomas Jefferson University

The **Cooperative 3+3 Program with Thomas Jefferson University** leads to a Bachelor of Science degree from Elizabethtown College and a Doctor of Physical Therapy (DPT) degree from Thomas Jefferson University. In this program, students spend three years at Elizabethtown College fulfilling general education Core, the Pre-Physical Therapy curriculum and the requirements of the Biology major. If accepted by the cooperating institution, students spend three more years at Thomas Jefferson University. Thomas Jefferson University's 3+3 DPT program accepts

applications during the fall of the senior year of high school or during the first year at Elizabethtown College. Interested students should consult with Dr. Jonathon Coren before organizing their first-year fall class schedule as this program has specific additional requirements. After completing four years – three at Elizabethtown and one at Thomas Jefferson University – and acquiring at least 125 credits, the student is awarded a Bachelor of Science degree in Biology from Elizabethtown College. After the student fulfills the remainder of the professional upper division program of clinical experience, the cooperative institution awards the Doctor of Physical Therapy degree.

Cooperative programs are offered with Thomas Jefferson University in other Allied Health areas, including cardiovascular technology, cytotechnology, cytogenetics technology, diagnostic imaging, laboratory sciences, nursing and occupational therapy. Students are not limited to the cooperative schools. Other allied health programs at other institutions of higher education may be used by the student to transfer credits back to Elizabethtown College. However, these programs need to be approved by the Biology Department and by the Registrar prior to the transfer of credit. All Allied Health majors should consult closely with Dr. Jonathon Coren to ensure that courses being taken fulfill other specific requirements of the institution to which the student plans to transfer.

The Biology Department requirements are:

- BIO 111 - Molecules, Cells, and Animal Systems
- BIO 112 - Principles of Evolution, Ecology, and Diversity of Life
- BIO 201 - Human Anatomy and Physiology I
- BIO 202 - Human Anatomy and Physiology II
- BIO 211 - Genetics
- One Biology elective (Maximum of 4 credits applied to major; all additional credits will be considered free elective credits.)
- AN 111 - NCH Understanding Human Cultures
- CH 105 - NPS Fundamentals of Chemistry: Introduction to Molecular Science
- CH 113 - Organic Chemistry I
- CH 114 - Organic Chemistry II
- One English elective

- EN 100 - PLE Writing and Language or
- EN 150 - PLE Advanced Writing and Language

- MA 110 - College Algebra and Trigonometry or
- MA 117 - Concepts of Calculus or
- MA 121 - MA Calculus I

- MA 251 - MA Probability and Statistics
- One Philosophy elective
- PHY 103 - General Physics I
- PHY 104 - General Physics II
- PSY 105 - SSC General Psychology
- PSY 221 - Abnormal Psychology
- PSY 225 - Developmental Psychology

Doctor of Physical Therapy/B.S. 3+3 Program with Widener University

The **Cooperative 3+3 Program with Widener University** leads to a Bachelor of Science degree from Elizabethtown College and a Doctor of Physical Therapy (DPT) degree from Widener University. In this program,

students spend three years at Elizabethtown College fulfilling general education Core, the Pre-Physical Therapy curriculum and the requirements of the Biology major. If accepted by the cooperating institution, students spend three more years at Widener University. Students may apply for acceptance into Widener University's 3+3 DPT program during the fall semester of their junior year as an undergraduate at Elizabethtown. Interested students should consult with Dr. Jonathon Coren before organizing their first-year fall class schedule as this program has specific additional requirements. After completing four years – three at Elizabethtown and one at Widener University – and acquiring at least 125 credits, the student is awarded a Bachelor of Science degree in Biology from Elizabethtown College. After the student fulfills the remainder of the professional upper division program of clinical experience, the cooperative institution awards the Doctor of Physical Therapy degree.

The Biology Department requirements are:

- BIO 111 - Molecules, Cells, and Animal Systems
- BIO 112 - Principles of Evolution, Ecology, and Diversity of Life
- BIO 201 - Human Anatomy and Physiology I
- BIO 202 - Human Anatomy and Physiology II
- BIO 211 - Genetics
- One Biology elective (Maximum of 4 credits applied to major; all additional credits will be considered free elective credits.)
- CH 105 - NPS Fundamentals of Chemistry: Introduction to Molecular Science
- CH 113 - Organic Chemistry I
- CH 114 - Organic Chemistry II

- MA 110 - College Algebra and Trigonometry or
- MA 117 - Concepts of Calculus or
- MA 121 - MA Calculus I

- MA 251 - MA Probability and Statistics
- PHY 103 - General Physics I
- PHY 104 - General Physics II
- PSY 105 - SSC General Psychology

- PSY 221 - Abnormal Psychology or
- PSY 225 - Developmental Psychology

- One Psychology elective
- One Sociology elective

Cardiovascular Invasive Specialty Program with Lancaster General College of Nursing and Health Sciences (LGCNHS)

The **Cardiovascular Invasive Specialty program with Lancaster General College of Nursing and Health Sciences** (LGCNHS) leads to a Bachelor of Science degree in Biology from Elizabethtown College and a diploma in Cardio-vascular Invasive Specialty from LGCNHS. In this program, the student spends the first three years at Elizabethtown College and, during the fourth year, attends LGCNHS. The program follows the three-year Biology - Allied Health concentration curriculum that meets both the requirements of the Biology major as well as the Core Program of Elizabethtown College for a total of 94 credits. The fourth year meets the academic and clinical curriculum established by LGCNHS for its Cardiovascular Invasive Specialty program for a total of 64 credits, of

which 31 will be transferred to Elizabethtown College. For program information and admissions requirements, contact Dr. Jonathon Coren.

Master of Forestry or Master of Environmental Management/B.S. Program with Duke University's Nicholas School of the Environment and Earth Sciences

The **Pre-forestry program with Duke University's Nicholas School of the Environment and Earth Sciences** is a five-year program leading to a Bachelor of Science degree from Elizabethtown College and a Master of Forestry or Master of Environmental Management degree from Duke University. While at Elizabethtown, students follow the interdisciplinary program for Forestry and Environmental Management. For program information and admissions requirements, contact Dr. Thomas Murray.

Biology Secondary Education (B.S.)

Student Learning Outcomes for Secondary Education concentration:

Students will be able to:

- Recall, synthesize, and apply material from multiple disciplines including biology, mathematics, chemistry and/or physics.
- Effectively research, synthesize and communicate scientific information.
- Design and carry out experiments to address biological questions.
- Critically analyze and formulate logical conclusions from data.
- Effectively demonstrate common laboratory techniques, doing so in accordance with accepted safety standards.
- Plan and design appropriate instructional and assessment activities.
- Create, organize, and maintain an effective classroom environment conducive to learning and development
- Develop and apply instructional methodologies appropriate to the grade and developmental level of students.
- Design and implement successful interventions responsive to the needs of children with special needs.

The **Secondary Education concentration** (Biology Education) prepares the student for receipt of Pennsylvania Secondary Education Certification within the framework of the Biology major. This program provides a strong background in the biological sciences, while simultaneously fulfilling the requirements for secondary teaching certification.

For further information: Students interested in this concentration should consult Dr. Thomas Murray.

The specific requirements are:

- BIO 111 - Molecules, Cells, and Animal Systems
- BIO 112 - Principles of Evolution, Ecology, and Diversity of Life
- BIO 211 - Genetics

- BIO 313 - General Ecology and
- BIO 313L - General Ecology Laboratory
  or
- BIO 317 - Aquatic Ecology

- BIO 324 - General Physiology
- BIO 324L - General Physiology Laboratory
- CH 105 - NPS Fundamentals of Chemistry: Introduction to Molecular Science
- CH 113 - Organic Chemistry I
- CH 114 - Organic Chemistry II
- One Earth Science course

- MA 117 - Concepts of Calculus or
- MA 121 - MA Calculus I

- MA 251 - MA Probability and Statistics

- PHY 103 - General Physics I or
- PHY 200 - College Physics I

At least 11 credits from:

- BIO 212 - Cell Biology and
- BIO 212L - Cell Biology Laboratory

- BIO 220 - Nutrition
- BIO 225 - Geographic Information Systems: Fundamentals and Applications
- BIO 235 - General Microbiology
- BIO 311 - Experimental Design in Cell Biology
- BIO 314 - Behavioral Neurobiology
- BIO 318 - Marine Biology
- BIO 320 - Conservation Biology

- BIO 322 - Immunology and
- BIO 322L - Immunology Laboratory

- BIO 335 - Microbial Ecology and Diversity

- BIO 336 - Pathogenic Microbiology and
- BIO 336L - Pathogenic Microbiology Lab

- BIO 341 - Comparative Mammalian Anatomy
- BIO 347 - Invertebrate Zoology

- BIO 352 - Developmental Biology and
- BIO 352L - Developmental Biology Laboratory

- BIO 354 - Molecular Evolution and

- BIO 354L - Molecular Evolution Laboratory
- BIO 362 - Ecotoxicology

Education Courses:

- ED 105 - Foundations of Teaching and Learning
- ED 151 - Early Adolescent/Adolescent Development
- ED 161 - Integrated Technology I
- SED 222 - Foundations of Inclusive Education (MSE 522)
- ED 305 - Methods of Secondary Education
- ED 341 - ELL: Linguistic and Cultural Diversity in the Classroom
- ED 470 - Professional Internship
- ED 497 - Senior Seminar for Secondary Education
- Two English courses for Education certification, one literature and one writing (EN 100 or EN 150)

Biotechnology (B.S.)

Student Learning Outcomes for Biotechnology:

Students will be able to:

- Recall, synthesize, and apply material from multiple disciplines including biology, mathematics, chemistry and/or physics.
- Demonstrate detailed knowledge of cellular processes.
- Effectively research, synthesize and communicate scientific information.
- Design and carry out experiments to address biological questions.
- Critically analyze and formulate logical conclusions from data.
- Effectively demonstrate appropriate cellular and molecular biology techniques when addressing scientific questions, doing so in accordance with accepted safety standards.
- Develop and complete an independent research project.
- Work effectively with others in a laboratory setting.

The Biotechnology curriculum prepares students for biological research careers utilizing new methodologies of microbiology and cellular and molecular biology and provides an additional option of study for students wishing to enter graduate school. Emphasizing “problem-based learning,” student internships and integration with the Core Curriculum, the major also provides a unique learning experience, stressing ethical use of technology, lifelong learning and development of leadership skills.

For further information: Students interested in the Biotechnology major should consult Dr. Jane Cavender.

The specific requirements are:

- BIO 111 - Molecules, Cells, and Animal Systems

- BIO 112 - Principles of Evolution, Ecology, and Diversity of Life
- BIO 211 - Genetics
- BIO 212 - Cell Biology
- BIO 212L - Cell Biology Laboratory
- BIO 235 - General Microbiology
- BIO 310 - Molecular Biology
- BIO 310L - Molecular Biology Laboratory
- BIO 311 - Experimental Design in Cell Biology
- BIO 324 - General Physiology
- BIO 324L - General Physiology Laboratory
- BIO 412 - Seminar in Biology
- CH 105 - NPS Fundamentals of Chemistry: Introduction to Molecular Science
- CH 113 - Organic Chemistry I
- CH 114 - Organic Chemistry II

- MA 117 - Concepts of Calculus or
- MA 121 - MA Calculus I or
- MA 251 - MA Probability and Statistics

- PHY 103 - General Physics I or
- PHY 200 - College Physics I

Take one Research or Internship:

A maximum of four credits can be applied to major; all additional credits will be considered free elective credits.

- BIO 474 - Internship in Biological Sciences or
- BIO 491 - Research in Biology or
- BIO 492 - Research in Biology

At least seven credits from:

- Biology electives and/or
- CH 323 - Biochemistry I

Environmental Science (B.S.)

Student Learning Outcomes for Environmental Science:

Students will be able to:

- Recall, synthesize, and apply material from multiple disciplines including biology, mathematics, chemistry and/or physics.
- Describe major topics in environmental science and integrate concepts from multiple disciplines including biology, chemistry, sociology, and geology.
- Effectively research, synthesize and communicate scientific information.
- Design and carry out experiments to address biological questions.

- Critically analyze and formulate logical conclusions from data.
- Effectively demonstrate common field and laboratory techniques, doing so in accordance with accepted safety standards.
- Apply major concepts in environmental science through either an independent research project or an internship.

The **Environmental Science** curriculum prepares students for entry-level positions with environmental firms, industry or government agencies that require knowledge of environmental principles and methodology, as well as for entry into graduate environmental programs. In addition to providing students with a solid grounding in basic principles, the curriculum also exposes them to the application of those principles through research and/or internships.

For further information: Students interested in Environmental Science should consult Dr. Thomas Murray.

The universal requirements for the Environmental Science major are:

- BIO 111 - Molecules, Cells, and Animal Systems
- BIO 112 - Principles of Evolution, Ecology, and Diversity of Life
- BIO 211 - Genetics
- BIO 313 - General Ecology
- BIO 313L - General Ecology Laboratory
- BIO 317 - Aquatic Ecology
- BIO 412 - Seminar in Biology
- CH 105 - NPS Fundamentals of Chemistry: Introduction to Molecular Science
- CH 113 - Organic Chemistry I
- CH 114 - Organic Chemistry II
- ES 114 - NPS Geosystems: Landscapes, Oceans and Atmosphere

- MA 117 - Concepts of Calculus or
- MA 121 - MA Calculus I or
- MA 251 - MA Probability and Statistics

- PH 255D - Advanced Ethics: Environmental

- PHY 103 - General Physics I or
- PHY 200 - College Physics I

- SO 204 - SSC Population and Global Issues

Take one of:

A maximum of four credits can be applied to major; all additional credits will be considered free elective credits.

- BIO 472 - Internship in Environmental Science
- BIO 491 - Research in Biology
- BIO 492 - Research in Biology
- PS 471 - Capital Semester Internship

At least seven additional credits from:

- BIO 225 - Geographic Information Systems: Fundamentals and Applications
- BIO 235 - General Microbiology
- BIO 318 - Marine Biology
- BIO 320 - Conservation Biology

- BIO 324 - General Physiology and
- BIO 324L - General Physiology Laboratory

- BIO 347 - Invertebrate Zoology
- BIO 362 - Ecotoxicology

Biology Minor

A Biology minor provides course options from which a student can gain an overall view of the discipline of biology. The total number of credits needed will be 18 or 20, depending on course selection.

For further information: To aid in course selection and career counseling, Dr. Diane Bridge of the Biology Department will work with the student and the student's major advisor.

Option 1: Take two courses from:

- BIO 101 - NPS Biological Concepts
- BIO 102 - NPS Human Heredity and Inherited Diseases
- BIO 103 - NPS Living with the Environment

Option 2: Take both:

- BIO 111 - Molecules, Cells, and Animal Systems
- BIO 112 - Principles of Evolution, Ecology, and Diversity of Life

Plus: Three additional courses in Biology (excluding 0-, 1- or 2-credit courses.

Biology Courses

BIO 101 - NPS Biological Concepts
4.00 credits. **(Natural and Physical Science Core Course)** Designed for the non-biology major. This course will present an overview of the major biological concepts and ideas emphasizing their relevance to our daily lives. The course is designed to stimulate discussion of current biological issues and is intended to provide an understanding of the basic mechanisms of life. *Students who have taken BIO 111 may not take this course. Hours: lecture 3, laboratory 3.

BIO 102 - NPS Human Heredity and Inherited Diseases
4.00 credits. **(Natural and Physical Science Core Course)** An overview of human heredity, providing the tools needed to make informed decisions on a variety of health-related issues with information on disease, medical technology, genetic engineering and biotechnology, and environmental factors affecting human health. As part of the laboratory, each student isolates copies of a small portion of his or her own mitochondrial DNA. Students work with international DNA databases to compare their DNA sequences to those from their classmates, from people around the world, and from ancient Neanderthal DNA, allowing them to observe evolution in a very personal way. **Corequisite(s):* BIO 102L. Hours: lecture 3, laboratory 3.

BIO 103 - NPS Living with the Environment
4.00 credits. **(Natural and Physical Science Core Course)** A lecture/laboratory course designed for non-science majors. Principles of environmental relationships and how living organisms play a role in those relationships and respond to changes in their environment are emphasized. Current problems with pollution, hazardous wastes, energy and population growth are examined in relation to those environmental principles. Hours: lecture 3, laboratory 3.

BIO 111 - Molecules, Cells, and Animal Systems
4.00 credits. The study of the chemical and cellular basis of life, human and animal anatomy and physiology, cellular reproduction, heredity and animal development. For Biology majors and those students taking additional biology courses. This course fulfills one of the Natural and Physical Sciences Core requirements for Biology majors. **Corequisite(s):* BIO 111L. *This course may not be taken for credit after completing BIO 101 without permission of the Department Chair. Hours: lecture 3, laboratory 3. Fall semester

BIO 112 - Principles of Evolution, Ecology, and Diversity of Life
4.00 credits. The evolution and diversity of organisms is examined by comparing representative forms of the five kingdoms and viruses. Discussion of plant structure and function and ecological principles is included. For Biology majors or those taking additional biology courses. **Prerequisite(s):* BIO 111 or permission of instructor. **Corequisite(s):* BIO 112L. Hours: lecture 3, laboratory 3. Spring semester.

BIO 201 - Human Anatomy and Physiology I
4.00 credits. The study of structure and function of the human integumentary, skeletal, muscular, nervous and endocrine systems. Particular attention is given to structure and function as it relates to dysfunction and disease. Laboratory work involves dissection of a human cadaver. Enrollment limited to occupational therapy, music therapy and allied health majors. **Prerequisite(s):* BIO 101 or BIO 111, or permission of instructor. **Corequisite(s):* BIO 201L. Hours: lecture 3, laboratory 3. Fall semester.

BIO 202 - Human Anatomy and Physiology II
4.00 credits. A continuation of BIO 201. The study of structure and function of the human circulatory, respiratory, excretory, digestive and reproductive systems. Emphasis on these systems as they relate to homeostasis and disease. Laboratory work involves cat dissection and "hands-on" manipulation of instruments useful to the health profession student. Enrollment limited to occupational therapy, music therapy and allied health majors. **Prerequisite(s):* BIO 201. **Corequisite(s):* BIO 202L. Hours: lecture 3, laboratory 3. Spring semester.

BIO 211 - Genetics
4.00 credits. An integrated and comprehensive review of classical, neo-Mendelian principles of heredity and molecular biology. Laboratory work involves Drosophila crosses and basic techniques employed for molecular investigations. **Prerequisite(s):* BIO 112 or permission of instructor. **Corequisite(s):* BIO 211L. Hours: lecture 3, laboratory 3. Fall semester.

BIO 212 - Cell Biology
3.00 credits. Study of the cell from a molecular perspective and integrated approach. Morphological and physiological study of cells, cell mechanisms, and cell organelles are explained through understanding the interaction of biological molecules. Laboratory involves qualitative and quantitative investigations of cellular and molecular construction of enzymatic pathways through various extraction and analysis techniques. **Prerequisite(s):* BIO 211 or permission of instructor. Hours: lecture 3, laboratory 3. Spring semester.

BIO 212L - Cell Biology Laboratory
1.00 credit. Required for the Biotechnology major. The laboratory exercises demonstrate many of the important cell biology principles covered in the lecture course (BIO 212). **Corequisite(s):* BIO 212. Register by Instructor. Spring semester.

BIO 220 - Nutrition
4.00 credits. This course serves as an introduction to nutrition as it relates to biology and science. We will focus on the importance and role of the major nutrients and discuss how these nutrients are acquired and analyzed by the body. In addition, we will discuss the role of nutrition in the development, health and well-being of the individual. These concepts will be applied to personal health through nutritional assessment and dietary planning. **Prerequisite(s):* BIO 111. Hours: lecture 3, discussion 1. Spring semester.

BIO 225 - Geographic Information Systems: Fundamentals and Applications
4.00 credits. Everything that happens, happens somewhere. A geographic information system (GIS) is a tool to evaluate the importance of that "somewhere." Students will learn the fundamental scientific and technological principles underlying GIS and gain hands-on experience designing and using a GIS in real-world applications. Spring semester, alternate years.

BIO 235 - General Microbiology
4.00 credits. A study of the morphological, physiological and ecological characteristics of bacteria, as well as disease transmission and principles of control. A laboratory gives practice in the isolation and identification of bacteria. **Prerequisite(s):* BIO 112 and CH 105 or CH 114, or permission of instructor. Hours: lecture 3, laboratory 4. Spring semester.

BIO 310 - Molecular Biology
3.00 credits. An upper-level course stressing study of current developments in molecular biology. Particular emphasis will be placed upon the theory of investigative molecular techniques. **Prerequisite(s):* BIO 111. Hours: 3. Fall semester.

BIO 310L - Molecular Biology Laboratory
1.00 credit. The molecular biology laboratory experiments offer hands-on experience with the modern techniques of molecular biology. Students become proficient in the techniques of cloning, agarose gel electrophoresis, polymerase chain reaction and DNA mutagenesis. Laboratory report writing skills are emphasized. **Corequisite(s):* BIO 310. Fall semester.

BIO 311 - Experimental Design in Cell Biology
4.00 credits. A practical and theoretical examination of current techniques employed to study cellular biology. Proficiencies in experimental design, data collection, data analysis, and critical review of current literature are developed. Mammalian and plant tissue culture techniques, immunohistochemistry, ELISA, polyacrylamide and capillary electrophoresis, western analysis, and cellular apoptosis assessed by electron microscopy are emphasized. **Prerequisite(s):* 15 credit hours of biology, including BIO 212, and eight credit hours of chemistry. Register by Instructor. Fall semester.

BIO 313 - General Ecology
3.00 credits. The relationships between plants, animals and their environment are investigated with regard to energy flow, mineral cycling, physical and chemical parameters, population changes and community structure. **Prerequisite(s):* 16 credit hours of biology or permission of instructor. Hours: 3. Fall semester.

BIO 313L - General Ecology Laboratory
1.00 credit. Use of techniques and instrumentation for aquatic and terrestrial field studies, experimentation in such areas as population growth, competition, productivity and mineral cycling. **Corequisite(s):* BIO 313. Hours: 4. Fall semester.

BIO 314 - Behavioral Neurobiology
4.00 credits. This course aims to provide a comprehensive overview of behavioral neurobiology, with special emphasis on the neuroethological approach. Through lecture and primary literature discussions, students will gain a contemporary understanding of the historical development of the behavioral sciences, the major ethological and neurobiological concepts, and the principle mechanisms that govern behavior in animals and humans. **Prerequisite(s):* BIO 111 or PSY 111. Alternating fall semesters.

BIO 317 - Aquatic Ecology
4.00 credits. The study of physical, chemical and biological relationships in aquatic ecosystems as they relate to the survival and growth of organisms. The course will include laboratory and field experimentation using local aquatic ecosystems. **Prerequisite(s):* 15 credit hours of biology and eight credit hours of chemistry. Hours: lecture 3, laboratory 4. Fall semester.

BIO 318 - Marine Biology
3.00 credits. A study of the chemical and physical characteristics of marine ecosystems and the functional adaptations of marine organisms to those systems. Representative marine communities including rocky intertidal and coral reefs are examined in detail. The impacts of humans on marine environments also are discussed. **Prerequisite(s):* Eight credit hours of biology and four credit hours of chemistry. Hours: 3. Spring semester, alternate years.

BIO 320 - Conservation Biology
4.00 credits. Conservation biology is an applied scientific discipline devoted to understanding and preserving the world's biodiversity. We will examine in lecture and through a series of case studies how basic ecological principles are being applied to preserve biodiversity. The case studies will highlight conservation at the species, community, ecosystem, and biosphere levels and societal aspects of conservation. We will also experience local biodiversity via field trips, civic engagement, and species identification sessions. **Prerequisite(s):* BIO 112 or permission of the instructor. Spring semester, alternate years.

BIO 322 - Immunology
3.00 credits. A basic course encompassing immunity, serology, immunochemistry and immunobiology. Considered are antigenic specificity, humoral and cellular effector mechanisms, hypersensitivities, immunogenetics, tolerance and enhancement, tissue and tumor immunity, as well as recent methodological advances. **Prerequisite(s):* BIO 112 or permission of instructor. Hours: 3. Spring semester.

BIO 322L - Immunology Laboratory
1.00 credit. The immunology laboratory experiments demonstrate many of the research methods currently utilized for studying immunology. This includes ELISA, flow cytometry, cell culture and cellular cytotoxicity assays. Emphasis is placed upon assessing cellular and humoral effector mechanisms in vivo experimentation. **Corequisite(s):* BIO 322. Spring semester.

BIO 324 - General Physiology
3.00 credits. A functional study of vertebrate organs and organ systems. Attention focused on similarities and specialization in relation to function, with emphasis on functional adaptations to the environment. **Prerequisite(s):* BIO 112 or permission of instructor. Hours: 3. Spring semester.

BIO 324L - General Physiology Laboratory
1.00 credit. An investigation of selected physiological mechanisms, employing spectrophotometers, datagraphs, spirometers, oscilloscopes, electrocardiographs, electrophoresis and animal surgical techniques. **Corequisite(s):* BIO 324. Hours: 4. Spring semester.

BIO 326 - Concepts of Virology and Virus Research
2.00 credits. An introduction to viruses and the strategies that they use to cause disease. In addition, the course will focus on four viruses, with different replication strategies including the poliovirus, influenza virus, herpes simplex virus and simian virus 40. The course will allow students to increase their understanding of experimental strategies used to investigate viruses and use the topic of viruses as a means to analyze and critically evaluate the scientific literature. **Prerequisite(s):* BIO 212 or BIO 324. Spring semester.

BIO 335 - Microbial Ecology and Diversity
4.00 credits. An intensive look at the physiology of microorganisms and how microbial metabolism plays a role in the cycling of nutrients in nature. Students will be exposed to the techniques commonly used to study microorganisms in their natural environment. The concepts of using microorganisms for bioremediation also will be discussed. **Prerequisite(s):* BIO 235 or permission of instructor. Hours: lecture 3, laboratory 4. Fall semester, alternate years.

BIO 336 - Pathogenic Microbiology
3.00 credits. An intensive study of the disease-causing microorganisms of humans. General epidemiology and cellular processes of pathogenesis of bacteria and viruses will be examined. The human immune system also will be covered in context of how bacteria and viruses subvert host defenses to infect, survive and grow in the host. **Prerequisite(s):* BIO 235 or permission of instructor. Hours: lecture 3. Fall semester.

BIO 336L - Pathogenic Microbiology Lab
1.00 credit. Experience with a variety of techniques important in the study of pathogenesis will be covered in this course, including microbial culture techniques, extraction of DNA, PCR, cloning and use of sequence databases and DNA analysis programs to identify functional genes. This course will be used to teach research as a process and involves the development of a research proposal. **Corequisite(s):* BIO 336. Hours: 3. Fall semester.

BIO 341 - Comparative Mammalian Anatomy
4.00 credits. A comparative and embryological study of the morphology of selected representatives from the class Mammalia. Laboratory work involves dissection and demonstration of organisms from select mammalian species. **Prerequisite(s):* BIO 112. Hours: lecture 2, laboratory 4. Fall semester.

BIO 347 - Invertebrate Zoology
4.00 credits. A study of the evolution of invertebrate animals from simple to complex forms, structural and functional similarities and differences, and the evolutionary trends necessary for an understanding of basic adaptive features. **Prerequisite(s):* BIO 112 or permission of instructor. Hours: lecture 3, laboratory 3. Fall semester, alternate years.

BIO 352 - Developmental Biology
3.00 credits. A study of how differential gene expression, physical properties of cells, and signaling between cells contribute to development from a fertilized egg into a complex adult animal. Changes in development underlying evolutionary changes in animal form and effects of pollutants and other environmental factors on development are discussed. **Prerequisite(s):* BIO 211. Hours: 3. Fall semester, alternate years.

BIO 352L - Developmental Biology Laboratory
1.00 credit. Techniques such as grafting tissue and staining with vital dyes and antibodies are used. Experiments address questions about cell-cell signaling, differentiation, evolution of gene families, regeneration, and effects of UV radiation and pesticides on early vertebrate development. **Corequisite(s):* BIO 352. Hours: 3. Fall semester, alternate years.

BIO 354 - Molecular Evolution
3.00 credits. Basic principles of evolutionary biology, together with their application to explain organismal properties at all levels, from DNA to behavior are covered, with emphasis on DNA and protein evolution. **Prerequisite(s):* BIO 211. Hours: 3. Fall semester, alternate years.

BIO 354L - Molecular Evolution Laboratory
1.00 credit. Experience with a variety of techniques important in the study of evolution at the molecular level, including extraction of DNA and RNA from diverse tissue types, PCR, cloning, and use of sequence databases and DNA analysis programs to identify cloned sequence. **Corequisite(s):* BIO 354. Hours: 3. Fall semester, alternate years.

BIO 362 - Ecotoxicology
4.00 credits. The study of the fate and transport of toxic compounds in the environment. The toxicity of individual pollutants at the organismal, species, population and community levels is discussed. Risk assessment and risk management in ecological systems also are discussed. The course includes laboratory experimentation. **Prerequisite(s):* 15 credit hours of biology and eight credit hours of chemistry. Hours: lecture 3, laboratory 4. Spring semester, alternate years.

BIO 370-378 - Special Topics in Biology
Variable credit. Courses of a specialized nature reflecting the interests of students and instructor. Courses are offered on a random basis. This course is repeatable for credit.

BIO 412 - Seminar in Biology
1.00 credit. Students will read and discuss articles in the biological literature dealing with major advances in biology. A paper and oral presentation on a subject related to the discussion is required. **Prerequisite(s):* Senior standing. Register by Instructor. Spring semester.

BIO 472 - Internship in Environmental Science
Variable (0.00 to 4.00) credit(s). Work experience in an environmental science-related field, including environmental consulting and engineering firms, analytical laboratories and state agencies. **Prerequisite(s):* At least junior standing. Graded Pass/No Pass. Register by Instructor. This course is repeatable for credit.

BIO 473 - Advanced Internship in Biology
12.00 credits. This specialized internship experience is conducted off campus and supervised by a professional in the area. These experiences will be typically, but not limited to, industrial or academic laboratory work, fieldwork in medicine, public or the allied health disciplines. **Prerequisite(s):* Senior standing, majors, 2.70 cumulative grade point average with a 3.00 grade point average in the major. Must be taken for a full semester off campus for free elective credit only. Graded Pass/No Pass. Register by Instructor

BIO 474 - Internship in Biological Sciences
Variable (0.00 to 4.00) credit(s). Work experience in a biological science-related field, including biotechnology, pharmaceuticals, health care, analytical laboratories and state agencies. **Prerequisite(s):* At least junior standing. Graded Pass/No Pass. Register by Instructor. This course is repeatable for credit.

BIO 480-489 - Independent Study in Biology
Variable credit. Opportunity for advanced students to engage in independent study on a topic of choice. **Prerequisite(s):* Approval of Department Chair and Independent Study Committee. Register by Instructor. This course is repeatable for credit.

BIO 491 - Research in Biology
Variable credit. An original research investigation planned and performed by students in consultation with faculty. A paper is written and major findings are presented orally to faculty and peers. Students must obtain permission of the professor who they wish to serve as their research mentor before enrolling in the course. A maximum of four credit hours from Biology 491 and 492 combined can count as biology electives. Additional credits count as free electives. A research experience totaling four credits is required for Honors in Biology. *Prerequisite: at least junior standing. **Prerequisite(s):* At least junior standing. Graded Pass/No Pass. Register by Instructor. Fall semester. This course is repeatable for credit.

BIO 492 - Research in Biology
Variable credit. An original research investigation planned and performed by students in consultation with faculty. Students must obtain permission of the professor who they wish to serve as their research mentor before enrolling in the course. A maximum of four credit hours from Biology 491 and 492 combined can count as biology electives. Additional credits count as free electives. A research experience totaling four credits is required for Honors in Biology. **Prerequisite(s):* At least a junior standing. Graded Pass/No Pass. Register by Instructor. Spring semester. This course is repeatable for credit.

BIO 527 - Fundamentals of Molecular Medicine IV – Immunology and Immunopathology
3.00 credits. Basic knowledge of immunity from the organism to the cellular level. The subject matter will focus upon how the immune system elicits protection against invasion by pathogenic organisms, and how these same responses may be damaging to the host. This course is provided through Drexel University College of Medicine for students in the 4+1 Biotechnology-Molecular Medicine cooperative program. Register by Instructor. Fall semester.

BIO 530 - Fundamentals in Molecular Medicine I
3.00 credits. This course will provide a broad foundation of information in the biological sciences, with a more pronounced focus on the information necessary for the biotechnological industrial environment. This course represents an overview of key topics in the areas of biochemistry, molecular biology and genetics. This course is provided through Drexel University College of Medicine for students in the 4+1 Biotechnology-Molecular Medicine cooperative program. Register by Instructor. Fall semester.

BIO 531 - Fundamentals in Molecular Medicine II
2.00 credits. This course (MIIM-531) represents an overview of key topics in the area of cell biology, cell physiology and their derangement in infectious disease. In addition to general principles, several individual cell types of wide biomedical importance will be examined in detail. This course is provided through Drexel University College of Medicine for students in the 4+1 Biotechnology-Molecular Medicine cooperative program. Register by Instructor. Spring semester.

BIO 533 - Fundamentals of Molecular Medicine V – Research Discussion and Problem Solving I
1.00 credit. This course will be an adjunct course to the Fundamentals of Molecular Medicine course BIO 531 (Fundamentals of Molecular Medicine II). It will serve as a forum for discussion of the primary literature as it relates directly to the topics covered as lecture material in MIIM-531. The course will be of a Journal Club format. Each student will choose, in consultation with the instructor for a given week of MIIM-531, a recent paper from the primary literature, and prepare an oral presentation that will serve as a summary and critique of the paper. This course is provided through Drexel University College of Medicine for students in the 4+1 Biotechnology-Molecular Medicine cooperative program. Graded Pass/No Pass. Register by Instructor. Spring semester.

BIO 534 - Fundamentals of Molecular Medicine VI
1.00 credit. This course will be an adjunct course to the Fundamentals of Molecular Medicine course BIO 530 Fundamentals of Molecular Medicine I. It will serve as a forum for discussion of the primary literature as it relates directly to the topics covered as lecture material in BIO 530. The course will be of a Journal Club format. Graded Pass/No Pass. Register by Instructor. Fall semester.

BIO 540 - Virus and Viral Infections
2.00 credits. This course will serve as an introduction to the basic aspects of the biology of viruses and viral infections, introducing concepts that relate to viral structure, replication and infection. The course is a requirement for the successful completion of the MS in Molecular Medicine from Drexel University College of Medicine. Register by Instructor. Fall semester.

BIO 541 - Bacteria and Bacterial Infections
2.00 credits. This course will serve as an introduction to the basic aspects of the biology of bacteria and bacterial infections, introducing concepts that relate to organism structure, replication and infection. The course is a requirement for the successful completion of the MS in Molecular Medicine from Drexel University College of Medicine. Register by Instructor. Spring semester.

BIO 542 - Mycology, Fungal Infections and Antibiotics
2.00 credits. This course will serve as an introduction to the basic aspects of the biology of mycology and fungal infections, introducing concepts that relate to microorganism structure, replication and infection. The course will also focus on the structure and function of antibiotics and anti-fungal therapies. The course is a requirement for the successful completion of the MS in Molecular Medicine from Drexel University College of Medicine. Register by Instructor. Spring semester.

BIO 543 - Parasites and Parasitic Infections
2.00 credits. This course will serve as an introduction to the basic aspects of the biology of parasites and parasitic infections, introducing concepts that relate to microorganism structure, replication and infection. The course will also focus on the diversity of modes of infection and parasite life cycles, and the development of therapies. The course is a requirement for the successful completion of the MS in Molecular Medicine from Drexel University College of Medicine. Register by Instructor. Spring semester.

Department of Business

Williams (Chair), Chung, Ciocirlan, Elicker, Gabriel, Greenberg, Krichevskiy, Melvin, Neuhauser, Paul, Riportella, Sandu, Varamini

For more information, please visit the Department's website.

VISION: To be nationally recognized as a premier business undergraduate program with a distinctive blend of the liberal arts and professional studies.

MISSION: We seek to create an environment in which students develop intellectual capacities in reasoning and judgment, gain a comprehensive knowledge of business disciplines, and apply it in experiential fashion. Our students will develop lifelong skills necessary to manage organizations effectively, with a keen appreciation of social responsibility and global citizenship. They will learn from and work with faculty with the highest academic credentials and extensive corporate experience who are committed to superior teaching and mentoring, and scholarship in the applied, theoretical and pedagogical areas of business.

The Mission statement is available here. It includes goals and student learning outcomes for each of the four majors in the Department of Business.

Professional Accreditation

Elizabethtown College, through its Department of Business, is nationally accredited by the Association of Collegiate Business Schools and Programs (ACBSP). This requires the Department of Business to adhere to strict standards of excellence and undergo peer review of our standards.

Outcomes Assessment

The Department uses feedback from a variety of measures – including surveys of alumni, the Major Field Achievement Test in business, and surveys of business executives – to gauge the effectiveness of its academic programs and institute curricular improvements. Data from these instruments is gathered and reviewed by the Department's Assessment Committee. Based upon this review, the Committee submits an annual report to the Department's faculty to recommend any changes to the curriculum or program based on its analysis of the various measures.

Internships

The Department of Business permits students to have multiple internship experiences in Accounting, Business Administration, Economics, and International Business (BA 470-474 or AC 470-473) up to a combined maximum of 12 credits. Students will not be awarded internship credit a second time for work performed during a different term in the same position at the same company.

Majors Offered

The Department of Business offers majors in **Accounting**, **Business Administration**, **International Business** and **Economics**.

Minors Offered

The Department of Business offers minors in Business Administration and Economics.

Students interested in business and technology are advised to read the description of the Industrial Engineering Management major offered by the Department of Engineering and Physics.

Honors in the Discipline

The Department of Business participates in the College Honors in the Discipline Program. Business majors are allowed to overload up to 20 credits in one semester, without paying an overload fee, only in the case that they decide to pursue an Honors in the Discipline project taken for credit. It is a significant opportunity for seniors who have excelled in the curriculum to conduct research resulting in publication in the proceedings from the Annual Student Conference in Business and Economics at Elizabethtown College. Invitations for the program are sent in April of each year.

For more information, please contact the Business Department Chair.

Accounting (B.S.)

Preparation for entrance into the profession of accounting (public, private, or government) requires a basic business core in addition to a proficiency in accounting. Because of the increased emphasis on critical thinking, communication, technology, and quantitative techniques, students are urged to elect additional courses that strengthen these skills areas.

Goals and Student Learning Outcomes for Accounting:

Goal One: Acquire knowledge of the functional areas of business and explain the integrated nature of business functions. Students will be able to:

- Articulate and apply the fundamental principles and theories in management, business law, marketing, finance, accounting, and economics.
- Apply knowledge acquired from functional areas of business to explain how each area affects the others.

Goal Two: Develop analytical reasoning skills and technical expertise for use in a variety of managerial situations. Students will be able to:

- Use quantitative and qualitative techniques to make managerial decisions.
- Analyze domestic and international business events.
- Identify and solve problems of resource allocation and planning in organizations.
- Apply their analytical and technical knowledge to practical business situations.

Goal Three: Develop teamwork, leadership and communication skills necessary to succeed in a diverse, global environment. Students will be able to:

- Work effectively in a team of diverse people.

- Demonstrate skills of leadership, influence, persuasion, and active listening.
- Communicate clearly, confidently and persuasively in written and oral forms.

Goal Four: Integrate ethics, and personal and social responsibility, in decision making. Students will be able to:

- Conduct themselves professionally and ethically.
- Demonstrate an appreciation of social responsibility in managerial decision making.

Goal Five: Acquire specialized skills and technical proficiency in the field of accounting. Students will be able to:

- Properly report financial transactions in financial statements.
- Prepare basic tax returns for individuals and corporations.
- Identify areas susceptible to audit risk and apply basic audit techniques.

Accounting Major

The **Accounting major** requires:

- AC 101 - Introduction to Accounting
- AC 205 - Intermediate Accounting I
- AC 206 - Intermediate Accounting II
- AC 270 - Cost Management Accounting
- AC 301 - Introduction to Taxation
- AC 310 - Accounting Information Systems
- AC 405 - Auditing
- One 300- or 400-level Accounting elective
- BA 101 - Business and Society
- BA 105 - Managerial Communication and Student Career Preparedness I
- BA 110 - Business Orientation
- BA 111 - First Year Business Experience
- BA 205 - Managerial Communication and Student Career Preparedness II
- BA 215 - Principles of Marketing
- BA 248 - Quantitative Methods/Operations Management
- BA 265 - Management and Organizational Behavior
- BA 270 - Introduction to Managerial Decision-Making Using Excel I (CS 270)
- BA 271 - Managerial Decision-Making Using Advanced Excel Application II (CS 271)
- BA 305 - Managerial Communication and Student Career Preparedness III
- BA 325 - Corporate Finance
- BA 331 - Business and Commercial Law for Accounting/Financial Professionals
- BA 405 - Managerial Communication and Student Career Preparedness IV
- BA 495 - Business Policy and Corporate Strategy
- EC 101 - Principles of Macroeconomics
- EC 102 - Principles of Microeconomics
- MA 251 - MA Probability and Statistics

150-Hour Accounting Program

In order to become licensed as a certified public accountant (CPA), most states now require individuals to complete 150 credits of course work in addition to obtaining a bachelor's degree and passing the CPA exam. The Department of Business will individually advise students regarding their state's specific requirements and encourage motivated students to complete the additional credits within their four years at Elizabethtown through a combination of AP credits, additional semester courses, internships and/or summer courses. Alternatively, students wishing to pursue a master's degree can obtain the additional credit hours as part of their course of study in their master's program. Several colleges and universities have developed one-year master's degree programs for students who wish to pursue this option.

For further information: Contact Ms. Terrie Riportella, Edgar T. Bitting Professor of Accounting and Director of the Accounting Program.

International Accounting

Students interested in international accounting can choose one of three options: 1) accounting major with a modern language minor; 2) accounting major with an international studies minor; or 3) international business major with an accounting concentration. Admission into the International Business major is limited and students must apply to that program separately. See the section, titled "Bachelor of Science in International Business," for more details. Students should declare their interest in either of the other two options in their first year in order to fulfill the common requirements: language, international studies and business courses.

For further information: Contact Ms. Terrie Riportella, Edgar T. Bitting Professor of Accounting and Director of the Accounting Program, or Dr. Hossein Varamini, Director of the International Business Program.

Business Administration (B.S.)

Preparation to become a business leader requires a broad background in business, a global perspective, a knowledge of the behavioral and social sciences, and the ability to use quantitative techniques in solving problems. The business core, the Core Program, and specific quantitative requirements provide this background. A student will gain further understanding of specific areas of business by concentrating in one of six areas: **Accounting**, **Economics**, **Entrepreneurship**, **Finance**, **Management, Marketing**.

Goals and Student Learning Outcomes for Business Administration:

Goal One: Acquire knowledge of the functional areas of business and understand the integrated nature of business functions. Students will be able to:

- Articulate and apply the fundamental principles and theories in management, business law, marketing, finance, accounting, and economics.
- Apply knowledge acquired from functional areas of business to understand how each area affects the others.

Goal Two: Develop analytical reasoning skills and technical expertise for use in a variety of managerial situations. Students will be able to:

- Use quantitative and qualitative techniques to make managerial decisions.

- Analyze domestic and international business events.
- Identify and solve problems of resource allocation and planning in organizations.
- Apply their analytical and technical knowledge to practical business situations.

Goal Three: Develop teamwork, leadership and communication skills necessary to succeed in a diverse, global environment. Students will be able to:

- Work effectively in a team of diverse people.
- Demonstrate skills of leadership, influence, persuasion, and active listening.
- Communicate clearly, confidently and persuasively in written and oral forms.

Goal Four: Integrate ethics, and personal and social responsibility, in decision making. Students will be able to:

- Conduct themselves professionally and ethically.
- Demonstrate an appreciation of social responsibility in managerial decision making.

A Business Administration major requires:

- AC 101 - Introduction to Accounting
- AC 270 - Cost Management Accounting
- BA 101 - Business and Society
- BA 105 - Managerial Communication and Student Career Preparedness I
- BA 110 - Business Orientation
- BA 111 - First Year Business Experience
- BA 205 - Managerial Communication and Student Career Preparedness II
- BA 215 - Principles of Marketing
- BA 248 - Quantitative Methods/Operations Management
- BA 265 - Management and Organizational Behavior
- BA 270 - Introduction to Managerial Decision-Making Using Excel I (CS 270)
- BA 271 - Managerial Decision-Making Using Advanced Excel Application II (CS 271)
- BA 305 - Managerial Communication and Student Career Preparedness III
- BA 325 - Corporate Finance
- BA 330 - Legal Environment of Business
- BA 405 - Managerial Communication and Student Career Preparedness IV
- BA 495 - Business Policy and Corporate Strategy
- EC 101 - Principles of Macroeconomics
- EC 102 - Principles of Microeconomics
- MA 251 - MA Probability and Statistics

A student also must choose one of the concentrations described below:

12 credits beyond those listed above must be taken in the concentration area (eight of those 12 credits must be taken on the Elizabethtown College campus).

Accounting concentration:

- AC 205 - Intermediate Accounting I
- AC 206 - Intermediate Accounting II
- One other Accounting elective

Economics concentration:

- EC 301 - Intermediate Microeconomics
- EC 302 - Intermediate Macroeconomics
- One other Economics elective

Entrepreneurship concentration:

- BA 380 - Entrepreneurship
- Two other Entrepreneurship electives

Finance concentration:

- BA 424 - Investments
- BA 425 - Advanced Financial Management
- One other Finance elective

Management concentration:

- BA 499 - Seminar in Management
- Two other Management electives

Marketing concentration:

- BA 416 - Marketing Management
- Two other Marketing electives

Economics (B.A.)

Preparation for a career in economics requires a broad background in basic economic theory and an in-depth study of the quantitative tools important to the economist. In light of the emphasis on the quantitative approach to economic theory, students are advised to select courses in mathematics and computer science beyond those specifically required in the economics curriculum.

Goals and Student Learning Outcomes for Economics:

Goal One: Understand economic theory, institutions and policy making. Students will be able to:

- Explain how economic decision making utilizes marginal benefit-marginal cost analysis.
- Explain the various aspects of production, prices, employment, and economic growth in an open economy.

- Explain the role of central banks and governments in the formulation and conduct of monetary and fiscal policies.

Goal Two: Apply the economic way of thinking in a variety of situations. Students will be able to:

- Evaluate and analyze public policy options in a variety of social and economic issues.
- Analyze economic events and conditions in the global economy.

Goal Three: Communicate ideas effectively. Students will be able to:

- Present logical arguments grounded in economic theory.
- Communicate clearly, confidently and persuasively in written and oral forms.

Goal Four: Employ quantitative and analytical skills. Students will be able to:

- Develop and use mathematical models of economic behavior.
- Use data analysis to explain economic phenomena and to test economic theories.

An Economics major requires:

- EC 101 - Principles of Macroeconomics
- EC 102 - Principles of Microeconomics
- EC 301 - Intermediate Microeconomics
- EC 302 - Intermediate Macroeconomics
- EC 309 - Introduction to Mathematical Economics
- EC 410 - Econometrics
- Three additional Economics courses
- BA 105 - Managerial Communication and Student Career Preparedness I
- BA 110 - Business Orientation
- BA 111 - First Year Business Experience
- BA 205 - Managerial Communication and Student Career Preparedness II
- BA 270 - Introduction to Managerial Decision-Making Using Excel I (CS 270)
- BA 271 - Managerial Decision-Making Using Advanced Excel Application II (CS 271)
- BA 305 - Managerial Communication and Student Career Preparedness III
- BA 405 - Managerial Communication and Student Career Preparedness IV
- MA 251 - MA Probability and Statistics

- MA 117 - Concepts of Calculus or
- MA 121 - MA Calculus I

International Business (B.S.)

Goals and Student Learning Outcomes for International Business:

Goal One: Acquire knowledge of the functional areas of business and understand the integrated nature of business functions. Students will be able to:

- Articulate and apply the fundamental principles and theories in management, business law, marketing, finance, accounting, and economics.
- Apply knowledge acquired from functional areas of business to understand how each area affects the others.

Goal Two: Develop analytical reasoning skills and technical expertise for use in a variety of managerial situations. Students will be able to:

- Use quantitative and qualitative techniques to make managerial decisions.
- Analyze domestic and international business events.
- Identify and solve problems of resource allocation and planning in organizations.
- Apply their analytical and technical knowledge to practical business situations.

Goal Three: Develop teamwork, leadership and communication skills necessary to succeed in a diverse, global environment. Students will be able to:

- Work effectively in a team of diverse people.
- Demonstrate skills of leadership, influence, persuasion, and active listening.
- Communicate clearly, confidently and persuasively in written and oral forms.

Goal Four: Integrate ethics, and personal and social responsibility, in decision making. Students will be able to:

- Conduct themselves professionally and ethically.
- Demonstrate an appreciation of social responsibility in managerial decision making.

Goal Five: Acquire language skills and technical proficiency in the field of international business. Students will be able to:

- Display a minimum rating of Intermediate High in a second language.
- Demonstrate understanding of the business practices of multinational corporations.
- Demonstrate cross cultural communication skills.

Preparation for a career in international business requires an understanding of foreign cultures, language and cross-cultural interaction skills, a broad background in business, an internship and skills in a functional area of business. An international business major must complete the following requirements in the four components of the program:

Modern Languages

Requirements for the modern language component include 211 and 212 of a modern language and a minimum rating of Intermediate High/1+ on the American Council on the Teaching of Foreign Languages (ACTFL) scale for French, German or Spanish. Those pursuing the Japanese language must achieve the designated level of the Japanese Foundation Proficiency Test. For the Chinese language, the requirements include CHN 211 and CHN 212 and at least eight additional credit hours of Chinese language completed in China during study abroad.

Foreign Culture and International Interaction

Requirements for the foreign culture and international interaction component include:

- EC 101 - Principles of Macroeconomics

- EC 307 - International Economics or
- EC 311 - Economic Development

- BA 197 - Introduction to International Business
- BA 257 - Exporting and Importing
- BA 258 - Global Business Negotiations
- BA 337 - International Legal and Ethical Environment of Business
- PS 245 - NCH International Relations
- One other foreign culture and international interaction course, normally taken abroad

Business Studies

Requirements for the business studies component include:

- AC 101 - Introduction to Accounting
- AC 270 - Cost Management Accounting
- BA 105 - Managerial Communication and Student Career Preparedness I
- BA 110 - Business Orientation
- BA 111 - First Year Business Experience
- BA 205 - Managerial Communication and Student Career Preparedness II
- BA 215 - Principles of Marketing
- BA 248 - Quantitative Methods/Operations Management
- BA 265 - Management and Organizational Behavior
- BA 270 - Introduction to Managerial Decision-Making Using Excel I (CS 270)
- BA 271 - Managerial Decision-Making Using Advanced Excel Application II (CS 271)
- BA 305 - Managerial Communication and Student Career Preparedness III
- BA 325 - Corporate Finance
- BA 327 - International Financial Management
- BA 405 - Managerial Communication and Student Career Preparedness IV
- BA 497 - International Business Seminar
- EC 102 - Principles of Microeconomics
- MA 251 - MA Probability and Statistics

And 12 credits in one of the following concentrations:

Accounting concentration:

- AC 205 - Intermediate Accounting I
- AC 206 - Intermediate Accounting II
- One other Accounting elective

Economics concentration:

- EC 301 - Intermediate Microeconomics
- EC 302 - Intermediate Macroeconomics
- One other Economics elective

Finance concentration:

- BA 424 - Investments
- Two other Finance electives

Management concentration:

- BA 499 - Seminar in Management
- Two other Management electives

Marketing concentration:

- BA 416 - Marketing Management
- Two other Marketing electives

Experiential Learning

To meet requirements of the experiential learning component, a student must complete an internship and also must study abroad in a foreign country where the target language is spoken. The study-abroad requirement is at least one semester with a program approved by the Department of Business and the Office of Registration and Records.

Admission to the International Business major is limited to 25 first-year students each year in order to maintain the quality of the program and to provide the necessary assistance for each student. Transfers are permitted from within the College or from other institutions on a space-available basis.

First-year international business majors are selected by the Department of Business faculty. The selection process includes consideration of: 1) academic accomplishments, 2) motivation and aptitude, 3) preparation for international business study, 4) leadership and communications, and 5) interest in international business.

A prospective student must submit an application with all supporting documents to the Admissions Office before March 15. Applications received after March 15 only will be considered on a space-available basis and will not be eligible for Department of Business scholarships.

Foreign students who are majoring in International Business should consult with the Director of the program during their first year to discuss their specific course requirements.

Admission to the International Business program does not imply that a student is guaranteed completion of the entire course of study. Generally, a student needs a 3.00 grade point average to qualify for a study-abroad program which is a requirement for graduation in this major.

For further information: Contact Dr. Hossein Varamini, Program Director.

Business Administration Minor

The Business Administration minor requires 24 credits of course work:

- AC 101 - Introduction to Accounting
- EC 101 - Principles of Macroeconomics
- BA 265 - Management and Organizational Behavior
- BA 330 - Legal Environment of Business
- Two Business electives at the 200-level or above

Economics Minor

The Economics minor requires 20 hours of course work:

- EC 101 - Principles of Macroeconomics
- EC 102 - Principles of Microeconomics
- EC 301 - Intermediate Microeconomics
- EC 302 - Intermediate Macroeconomics
- One Economics elective

Accounting Courses

AC 101 - Introduction to Accounting
4.00 credits. An introduction to the basic accounting methods and principles used in preparing financial statements for external reporting, accompanied by an application project that will incorporate interpretive and analytical techniques.

AC 205 - Intermediate Accounting I
4.00 credits. A study of generally accepted accounting principles and their application to asset accounting in the corporate financial reporting environment. Beginning with a brief review of introductory financial accounting topics including the accounting cycle and the financial statements and quickly moving to more challenging and complex topics: alternative procedures to account for current assets, plant and equipment, intangibles and investments; the accounting treatment of related income statement transactions; and valuation, classification, disclosure and cutoff. **Prerequisite(s):* AC 101.

AC 206 - Intermediate Accounting II
4.00 credits. A continuation of AC 205. The understanding of many concepts covered in the introductory course are expanded with a more in-depth examination of related concepts: liabilities and stockholder's equity sections of the balance sheet with detailed discussion of how to account for bonds payable, long-term notes, employee pensions and benefits, and the issuance of stock. Calculation of earnings per share, how to correct errors in the financial statements, preparation of the statement of cash flows and deferred income taxes also are discussed. **Prerequisite(s):* AC 205.

AC 270 - Cost Management Accounting
4.00 credits. An understanding of how costs behave - cost-volume and profit analysis; are collected - job costing and process costing; are assigned - activity-based costing; are managed - strategic-based responsibility accounting; are measured - budgets and variance analysis; and are used in decision making - pricing and alternative use of capital. Multinational considerations also are included. **Prerequisite(s):* AC 101.

AC 301 - Introduction to Taxation
4.00 credits. Following the American Institute of Certified Public Accountants (AICPA) recommended Model Tax Curriculum as revised in 1999, this course introduces a broad range of tax topics and principles of federal income taxation of individuals, corporations and partnerships. Understanding various types of taxes in the U.S. system and the basis for the federal income tax system is emphasized. Tax concepts that relate to individual taxpayers, and identifying the similarities and differences of individual taxation items to the taxation of business entities are learned, emphasizing the role of taxation in the business decision-making process, tax law and research, and concepts application. **Prerequisite(s):* AC 101 or permission of instructor.

AC 302 - Advanced Studies in Taxation
4.00 credits. This course follows the American Institute of Certified Public Accountants (AICPA) recommended Model Tax Curriculum as revised in 1999. Students will develop advanced technical and technological skills in entity taxation, the tax effects of multijurisdictional commerce and advanced issues facing individual taxpayers, including retirement, estate/gift issues and financial planning. Advanced skills with tax research materials are developed, as is an appreciation for the work ethic and professional responsibilities. Emphasis will be placed on learning to employ tax law in various financial and tax-planning techniques. **Prerequisite(s):* AC 301.

AC 304 - Forensic Accounting
4.00 credits. This course introduces students to the specialty practice area of forensic accounting. Students will study the growing role of the forensic accountant, what differentiates forensic accountants from traditional auditors, the causes of fraud and the perpetrator's motivations. Topics include: money laundering, identity theft, fraudulent investment schemes, litigation support, financial damage assessment and the importance of internal controls. Students will examine the ethical issues in accounting, risk assessment and how to investigate and respond to fraud in the workplace. **Prerequisite(s):* AC 206. Spring semester.

AC 307 - International Accounting
2.00 credits. The course examines a variety of accounting and business issues encountered by multi-national organizations. Specific topics include: comparative worldwide accounting diversity, international financial statement analysis, global strategic accounting issues, international corporate governance and social responsibility, international taxation, transfer pricing and auditing. **Prerequisite(s):* AC 206 or permission of instructor.

AC 308 - Accounting for Nonprofit Organizations
4.00 credits. The applicable principles and uses of fund accounting - to include budgeting, preparation and reporting of general and special financial statements and their use in decision making, controlling and identifying general operating funds and those restricted and non-restricted special funds - are discussed. An experiential project is assigned involving a real-life case study, which will include evaluating performance measurement standards. **Prerequisite(s):* AC 206 and junior status.

AC 310 - Accounting Information Systems
4.00 credits. An introduction to the components of an accounting information system and its relationship to the overall management information system. The use of information to support the planning, analysis and reporting of business activities using fully integrated information systems is discussed. Students are introduced to system design and documentation, including flowcharting and control procedures. All major transaction processing cycles and the effect on the accuracy of accounting information are reviewed. Students are introduced to and required to use complex microcomputer and database applications. **Prerequisite(s):* AC 206.

AC 370-378 - Special Topics in Accounting
Variable credit. Courses of special interest to the student and the instructor offered on an occasional basis. This course is repeatable for credit.

AC 405 - Auditing
4.00 credits. A study of auditing theory and standards, professional ethics and auditor's legal liability, with in-depth analysis of the audit process, including risk assessment, the theory and auditing of internal control systems, audit evidence, working papers, quality control, statistical sampling, implications of computer-based systems to the audit process, and the preparation of audit reports. **Prerequisite(s):* AC 310 or permission of instructor.

AC 406 - Advanced Accounting
4.00 credits. A study of the accounting theory and practice of business combinations, consolidated financial reporting according to United States GAAP, foreign currency transactions and financial statement translation, derivatives and special accounting topics, including business liquidations and reorganizations, SPEs, joint ventures and partnerships. **Prerequisite(s):* AC 206.

AC 470-473 - Internship in Accounting
Variable (0.00 to 12.00) credits. Students gain work experience with either a public accounting firm, a business organization or a governmental agency. **Prerequisite(s):* Approval of Accounting Director or Department Chair. Register by Instructor. This course is repeatable for credit.

AC 474 - Volunteer Income Tax Assistance Program
2.00 credits. A hands-on opportunity to apply knowledge that was learned in Accounting 301 by preparing income tax returns under the Volunteer Income Tax Assistance (VITA) Program of the Internal Revenue Service in an experiential-learning environment. Students interact with clients, accumulate their tax information and prepare their federal, state and local income tax returns using tax software. **Prerequisite(s):* AC 301. Register by Instructor.

AC 480-489 - Independent Study in Accounting
Variable credit. Independent study and research on a problem or topic in the field of accounting. **Prerequisite(s):* Approval of the Independent Study Committee. Register by Instructor. This course is repeatable for credit.

Business Administration Courses

BA 101 - Business and Society
4.00 credits. Managers function within an environment and their actions influence a number of stakeholders who in turn influence managerial decision making. Environmental awareness is increased by describing and analyzing seven sub-environments: stakeholder, economic, political, social, ethical, competitive and ecological. The course provides a context for other courses in the program and acquaints students with the dynamics of managing in the business, public and nonprofit sectors of the U.S. economy. Register by Instructor.

BA 105 - Managerial Communication and Student Career Preparedness I
1.00 credit. Students will study written communication techniques used in the business world. They will learn the basics of memorandums, emails and business letters. They will also learn how to find and apply effectively for internships with real organizations. The course also provides students with skills for using data to support business communication. This course is restricted to Business students only and must be taken in the first year.

BA 110 - Business Orientation
1.00 credit. The purpose of this course is to integrate the freshman business student and those entering the business department for the first time to the educational learning environment of the College, Department, and Business Environment. Students will receive extensive orientation about the process that should be used to transition into a successful student within the business department. Students will acquire the necessary tools to build and manage their academic curriculum as well as co-curricular activities that will support their learning plan used to satisfy college and business department requirements. This course is required of all Business majors. Spring semester.

BA 111 - First Year Business Experience
0.00 credit. This course provides students with real world business exposure through group work tied to local Elizabethtown businesses. The students will be designated into teams and perform analysis pertaining to a business problem. They will present their findings to the business and faculty at the end of the semester. This course parallels with the liberal arts first year experience. So business students through the first year experience and our first year business experience will come away with a comprehensive understanding of how business operates in society. This will help them prepare for a career in business and appreciate the value of being a life-long learner. This course is required of all Business majors. Graded Pass/No Pass. Spring semester.

BA 161 - Career Planning Seminar
1.00 credit. This seminar will provide students the opportunity to assess their strengths and weaknesses in order that they may be better able to determine an appropriate career choice. In addition, they will become acquanted with career opportunitie available to them in business and the types of companies withwhom they may wish to be employed. Finally, they will be introduced to career planning techniques that will assist hem in creating their own plan. Spring semester.

BA 197 - Introduction to International Business
4.00 credits. An introduction to the international business environment, including the political, social, economic and cultural dimensions of foreign countries. Introduces theories and practical aspects of international business from both a cultural and functional perspective. Students develop their understanding of the differences between foreign cultures and their own culture and improve the interaction skills necessary to function effectively in the global community. Register by Instructor.

BA 205 - Managerial Communication and Student Career Preparedness II
1.00 credit. Students will learn how to write a resume and cover letter effectively, and how to prepare for and conduct during an interview. They will also learn appropriate etiquette, conduct, and professionalism in the business environment. **Prerequisite(s):* BA 105. This course is restricted to Business students only and must be taken in the sophomore year.

BA 215 - Principles of Marketing
4.00 credits. An introductory course emphasizing key concepts and issues underlying the marketing process and how it operates in today's dynamic organizations. The marketing mix is examined on a broad scale, with students developing an understanding of how decisions in each element impact and influence the others. Among the topics covered are segmentation, consumer behavior, product development, promotional campaigns, marketing research, distribution planning and pricing strategies. The course will culminate in a final project or major case study, with students developing and presenting a marketing plan.

BA 248 - Quantitative Methods/Operations Management
4.00 credits. Usage of quantitative methods and operations management concepts to optimize business decisions is learned. The quantitative methods covered are forecasting, decision making, inventory management, and linear programming. The operations management concepts are project management, statistical process control, materials requirement planning, enterprise resource planning, scheduling, reliability, acceptance sampling and learning curves. **Prerequisite(s):* MA 251.

BA 255A - Advanced Ethics: Business (PH 255A)
4.00 credits. Business Ethics is part of a four-course sequence in Applied Ethics. In each course, a theoretical foundation for ethical discourse within the respective field is established. This course then proceeds to a detailed treatment of central ethical dilemmas in the actual practice of business.

BA 257 - Exporting and Importing
2.00 credits. Focus on the management of flow of goods and services across national borders to enhance the competitiveness of small- and medium-size firms, including market research, agent selection, export financing, government regulation, transportation, insurance and documentation. Register by Instructor.

BA 258 - Global Business Negotiations
2.00 credits. Students acquire knowledge about effective negotiation techniques across national borders. A framework is provided to guide students in understanding the process of developing negotiation skills in business transactions and learning to close deals, create value, resolve disputes and reach lasting agreements with counterparts in other countries. Register by Instructor.

BA 265 - Management and Organizational Behavior
4.00 credits. Critical management issues in planning, organizing, leading and controlling -within the framework of understanding why and how people interact with one another, in groups, and with the organization itself - are examined, with opportunities to enhance communication and interpersonal skills through learning at multiple levels, including individual reading, study and analysis, in-class lectures and exercises, and small discussion groups, in which newly acquired knowledge can be applied to the analysis of real-world scenarios.

BA 270 - Introduction to Managerial Decision-Making Using Excel I (CS 270)
2.00 credits. This class will provide an introductory level exploration of Microsoft Excel. Various functions, worksheet navigation, and uses of Excel will be major components. **Prerequisite(s):* BA 101, BA 197, EC 101, or EC 102. Register by Instructor.

BA 271 - Managerial Decision-Making Using Advanced Excel Application II (CS 271)
2.00 credits. The course will provide an advanced level exploration of Microsoft Excel through problem solving, analysis, and evaluation. Advanced capabilities, various business/mathematical functions, and applications to business decision-making will be major components. This course aims to prepare students for the Microsoft Office User Specialist certification exam in Excel. **Prerequisite(s):* BA 270. Register by Instructor.

BA 290 - Emerging European Union
3.00 credits. An introduction to the history and social structure of European economic integration from 1927 to present by examining the problems faced by the member states, the specific role of British politics, eastern European politics in the European Union and European Monetary Union, debates and the impact of the Union on Britain, the accession states and the United States, in terms of both its social system obstacles to integration and its European public policy. An understanding of social conflicts inherent in the integration of multiple social systems and cultural, business, political, technological and legal obstacles associated with economic integration of the European Union and the tenuous relationship between the Union members is emphasized. Offered only in the Summer Study Abroad in Oxford, England Programme and the Department of Business Program in Prague. Register by Instructor.

BA 305 - Managerial Communication and Student Career Preparedness III
1.00 credit. Students will learn how to deliver effective presentations and public speaking assignments. They will also learn advanced job application and interviewing techniques. **Prerequisite(s):* BA 205. This course is restricted to Business students only and must be taken in the junior year.

BA 311 - Marketing Research
4.00 credits. An introduction to the theories and techniques behind the development, execution and dissemination of marketing research. Taught through a hands-on approach, students will have the opportunity to explore a variety of research methodologies and techniques, both quantitative and qualitative. The course will culminate in a final project conducted in conjunction with an actual client. **Prerequisite(s):* BA 215 and MA 251.

BA 312 - Advertising Management
4.00 credits. An overview of the advertising process from both an agency and client perspective. Students will receive a strong foundation in research and strategy development, the building blocks upon which successful campaigns are built. The course will culminate in a final project encompassing research, strategy, creative and media planning, with results pitched to an actual client. **Prerequisite(s):* BA 215.

BA 313 - Services and Retail Marketing
4.00 credits. The service sector is the bulk of all marketing activities and faces a set of challenges that product marketers do not encounter. This course examines service marketing's unique characteristics and frames strategic marketing considerations in terms of these characteristics. In addition, special focus is placed on retailing as a major contributor of economic growth. **Prerequisite(s):* BA 215.

BA 314 - Sales and Sales Management
4.00 credits. An introduction to the principles of salesmanship as practiced in the modern business organization and an examination of the role of the sales manager in organizing and directing a sales force. Topics include the relationship-selling process, developing and making a sales presentation, use of contact management software, and principles of sales management (including recruiting, territory allocation, client contact management, and compensation).

BA 315 - Internet Marketing
4.00 credits. A development of understanding the complexity of marketing goods and services over the Internet. Developing strategic business models for e-commerce, and planning and implementing an Internet-focused organization are covered. Development or revision of a webpage for a business client - including the home page and at least two child pages - is required as a group project. **Prerequisite(s):* BA 215.

BA 319 - Consumer Behavior
4.00 credits. Development of an understanding of the explanations, based on behavioral sciences, for consumer purchasing activities. Subjects include the consumer's role in society, group influences on consumers, the nature of individual consumers as determinants of buying behavior, and consumer decision-making models. **Prerequisite(s):* BA 215.

BA 325 - Corporate Finance
4.00 credits. An introduction to fundamental tools and concepts used in short-term and long-term financial decision making. An overview of the major financial markets is provided. Financial statements, discounted cash flow analysis, bond and stock valuation models, risk and return for assets and portfolios, cost of capital, financing decisions, capital budgeting, capital structure of the firm and dividend policy are covered. **Prerequisite(s):* AC 101.

BA 327 - International Financial Management
4.00 credits. Development of an understanding of the international financial environments in which economic policy and business decisions are made. Specifically, the course covers the spot and forward exchange markets, the Eurocurrency market and the international capital markets. The impact of exchange rate behavior on corporations and the foreign exchange risk management for multinational corporations are covered. **Prerequisite(s):* BA 325.

BA 330 - Legal Environment of Business
4.00 credits. The study and evaluation of legal, ethical and global issues as they pertain to understanding how a business organization operates in a changing socio-economic environment.

BA 331 - Business and Commercial Law for Accounting/Financial Professionals
4.00 credits. Legal concepts applicable to the formation and execution of contracts for the business environment are studied with examination of the evolution of contract law and the institution of uniform standards to simplify its applications across geographic boundaries.

BA 337 - International Legal and Ethical Environment of Business
4.00 credits. An introduction to the study of international business law, the function and importance of public international law, the role of public and private international organizations, and public policy and ethics in setting standards and guidelines for international business. An understanding of the legal problems associated with economic integration within the European Union and North America is emphasized.

BA 347 - Global Supply Chain Management
4.00 credits. This course focuses on the management of supply chain processes and performance. It will be valuable for students who would like to pursue a career in supply chain, operations, logistics of a manufacturing or distribution firm. We explore important supply chain metrics, primary tradeoffs in making supply chain decisions, and basic tools for effective and efficient supply chain management, production planning and inventory control, order fulfillment and supply chain coordination. We will also investigate topics such as global supply chain design, logistics, and outsourcing, several other recent supply chain innovations. The class format includes lectures, case discussions, guest speakers, and simulation games. The content covers both quantitative and qualitative materials. The cases will feature companies in the service industry, as well as firms in more traditional industries such as apparel and manufacturing. **Prerequisite(s):* BA 248. Spring semester.

BA 350 - European Union Simulation I (PS 350)
4.00 credits. Study of the principles and theories of European integration; the history of the current European Union (E.U.), from the Treaty of Rome to the present; and the structure and functioning of the European Union, including class participation representing an E.U. Member State in the annual Mid-Atlantic European Union Consortium E.U. Simulation in Washington, D.C.

BA 360 - Washington Institute (PS 360)
4.00 credits. The course highlights relationships between the legislative, executive, independent agencies, and third-party institutions that directly affect how policy is made in the United States. The course exposes students to the mechanism that is used to formulate policy for the United States. The Institute will focus heavily on international policy and the inner workings of the various institutional agents that participate in the process of making policy. Students will observe and develop a critical sense of how to weigh the various interests before policy is ultimately made. Students will learn to examine the purpose of policy and evaluate how it will impact on various industries. **Prerequisite(s):* BA 101. Register by Instructor.

BA 365 - Human Resource Management
4.00 credits. A unique overview of the Human Resource Management (HRM) function in terms of practicality and real-world application, the processes and methods used in HRM planning, along with techniques for conducting job analysis, writing job descriptions, equal employment opportunity compliance, recruiting and selecting employees, orientation, training and development, appraising employee performance, and maintaining employee discipline are examined. Varied instructional methods include lecture, small group discussion, document creation and case-study analysis. **Prerequisite(s):* BA 265.

BA 367 - International Management
4.00 credits. An approach to global economy through the analysis of managerial practices in international companies regardless of their sizes, focusing upon the key success factors of managing a company across national boundaries. The students' understanding of the field of international business from a managerial perspective is based on the integration of the learned concepts and tools with real-world applications. **Prerequisite(s):* BA 265.

BA 370-378 - Special Topics in Business
Variable credit. Courses of special interest to the student and the instructor offered on an occasional basis. This course is repeatable for credit.

BA 380 - Entrepreneurship
4.00 credits. An assessment and development of entrepreneurial skills, emphasizing a "hands-on" approach based on case studies on entrepreneurial ventures, writing business plans on opportunities identified by students, experiential exercises and executive speakers (entrepreneurs, investors and consultants). In-class topics enable students to understand the entrepreneur's profile, and to acquire the knowledge and skills necessary to create, start, finance, manage and grow a new venture.

BA 382 - Entrepreneurial Marketing
4.00 credits. This course provides students the opportunity to assess and develop their entrepreneurial skills. The class emphasizes essential marketing concepts and tools and their real-life application by entrepreneurs. The topics covered in class include innovative and informal marketing approaches, which will enable students to understand the marketing side of a successful entrepreneurial business. This hands-on approach is based on class discussion and interaction, executive speakers (entrepreneurs, investors and consultants), case studies on entrepreneurial ventures, and experiential exercises and applications. **Prerequisite(s):* BA 215.

BA 384 - The Family as Entrepreneur
4.00 credits. This course systematically explores the entrepreneurial process within the context of the family. It provides students with an integrated theory and practice approach to the family as entrepreneur. Families who act as entrepreneurs must learn how to pass on the mindset and methods for creating new streams of wealth across many generations rather than simply pass the business to the next generation. Fall semester.

BA 385 - New Venture Creation
2.00 credits. New Venture Creation provides students the opportunity to develop the skills necessary to write a business plan. The class emphasizes a “hands-on” approach based on class discussion and interaction, a final project, presentations, experiential exercises, and guest speakers who have gone beyond the “what if…?” stage to actually creating an enterprise where nothing existed before. Emphasis will be placed on evaluating business models and defining entrepreneurial opportunities. Spring semester.

BA 400 - Senior Project in Business
3.00 credits. Students who have been invited and accepted to participate in the Honors in the Discipline Program may register for this course in the semester in which the research or creative project is completed. Completion of this course does not assure recognition for Honors in the Discipline. Register by Instructor

BA 405 - Managerial Communication and Student Career Preparedness IV
1.00 credit. Students will learn how to write an effective business plan and a business report. They will also learn to make socially responsible managerial decisions. **Prerequisite(s):* BA 305. This course is restricted to Business students only and must be taken in the senior year.

BA 416 - Marketing Management
4.00 credits. Integrating marketing theories and concepts for strategic planning and implementation. This course draws on previous course work in marketing, with special emphasis on the application of marketing theories. Case studies will be primary learning tools. **Prerequisite(s):* BA 215 and BA 325.

BA 420 - Financial Institution Management
4.00 This course seeks to provide students with a solid understanding of: terms, facts, and perspectives useful in financial institutions’ management; concepts, tools, and objectives financial institution managers use in framing and resolving various issues; forces shaping the financial service industry environment for financial institution managers, e.g., changes in the information and contracting technologies, changes in the mixture of domestic and global competitors, and interactions of innovations with rules enforced by self-regulatory organizations and government agencies. **Prerequisite(s):* BA 248 and BA 325.

BA 424 - Investments
4.00 credits. This course emphasizes the various classes of investments available to the investor, sources and uses of investment information, and security and capital market valuation. Fundamental concepts, theories and techniques of investing in different assets are provided. Portfolio management is introduced. **Prerequisite(s):* BA 325.

BA 425 - Advanced Financial Management
4.00 credits. An advanced course in corporation/business finance, in which major topic areas such as capital budgeting, working capital management, leasing, mergers and financing are examined in depth. Cases, readings and problems are used to illustrate the concepts covered. **Prerequisite(s):* BA 325.

BA 426 - Student Managed Investment Portfolio
2.00 credits. This course provides real-time management of assets and an introduction to the investment management business. Emphasis is on information analysis, security selection, fund management, teamwork and communication. **Prerequisite(s):* BA 424.

BA 430 - Advanced Legal Issues for Managers
4 credits. This course builds on the foundations from Legal Environment of Business by exploring more advanced concepts in the American legal system through a managerial approach with an analytical focus on legal, regulatory, and ethical issues that impact business entities. The advanced course allows students to develop a more sophisticated level of legal acumen and deeper understanding of how managers use the law to add value to the firm in business operations and planning. This course builds on fundamental concepts introduced in the 300-level courses. **Prerequisite(s):* BA 330 or BA 337.

BA 466 - Operations and Production Management
4.00 credits. A junior-/senior-level course in which the students combine classroom study of operations and production management methodologies with field trips to manufacturing and service organizations. Students are given the most recent management methods for maximizing outcomes of the production and service functions at minimal cost, while achieving superior levels of customer satisfaction. **Prerequisite(s):* BA 265.

BA 470-474 - Internship in Business
Variable (0.00 to 4.00) credit(s). Combined academic goals, abstract/theoretical and experiential learning through an internship assist in the reflection, analysis and integration of experiences and insights gained through internships with the academic theory, principles, concepts, and social and ethical dimensions of the discipline and subject area. This strengthens students' lifelong-learning skills, professional and public-speaking skills, personal and professional values and ethics, and self-confidence and clarifies personal and career goals. Students must complete at least 125 hours of internship assignment over a 12-week period (eight weeks in summer). Register by Instructor. This course is repeatable for credit.

BA 479 - Internship / Co-op in Business
Variable (0.00 to 12.00) credit(s). Students gain work experience with a business organization or government agency on a full-time basis, either during the regular semester or the summer. **Prerequisite(s):* Junior or senior standing; Business or International Business major; approval of instructor; and pre-approved placement. Register by Instructor. This course is repeatable for credit.

BA 480-489 - Independent Study in Business
Variable credit. Opportunity for students to engage in independent study in some area of business administration. **Prerequisite(s):* Approval of Department Chair and the Independent Study Committee. Register by Instructor. This course is repeatable for credit.

BA 495 - Business Policy and Corporate Strategy
4.00 credits. A comprehensive and integrative course that builds on knowledge acquired in the prior business classes, this class offers the opportunity to integrate that knowledge through a cross-functional approach. The focus is understanding how companies craft and implement strategies that preserve and create sustainable competitive advantage. **Prerequisite(s):* Senior status.

BA 497 - International Business Seminar
4.00 credits. As a capstone course in international business, the course is designed to provide both the theoretical perspectives and the practical applications of global business. The course integrates concepts, principles and practices from prior courses in accounting, management, finance and marketing to prepare students for a successful career in international business. **Prerequisite(s):* Senior status and International Business majors. Register by Instructor.

BA 498 - Seminar in Marketing
4.00 credits. Drawing on students' foundational course work in marketing, this course examines current marketing topics in more depth and with more rigor. Research and/or projects are primary learning tools. **Prerequisite(s):* BA 215. This course is repeatable for credit.

BA 499 - Seminar in Management
4.00 credits. Advanced study management course is topical in nature in order to provide a comprehensive examination of contemporary management issues, including but not limited to organizational design, policy formulation, leadership, motivation and corporate culture. **Prerequisite(s):* BA 265.

Economics Courses

EC 101 - Principles of Macroeconomics
4.00 credits. An introduction to a country's gross domestic product. Topics covered include factors affecting a country's output of goods and services, the role of fiscal policy and monetary policy in dealing with inflation and unemployment, the Federal Reserve system and the goal of price stability, causes and consequences of budget deficits, and factors affecting trade deficits and exchange rates.

EC 102 - Principles of Microeconomics
4.00 credits. Topics covered include the basis for decision making by economic agents, utility maximization by consumers, the demand curve, profit maximization by firms, diminishing returns and input choice, optimal output and price for a firm in various market structures, market failure, income inequality, and comparative advantage and international trade.

EC 280 - International Organizations Seminar
Variable (2.00 or 3.00) credits. The course deals with the subject of development and the role of international organizations in promoting it around the world. We study the origins of the United Nations, the World Bank, the International Monetary Fund and the World Trade Organization; trace their evolution through the decades; and explore the (changing) role of the multilateral institutions in promoting development. We consider, in particular, the major problems of development facing the world today, and how these organizations can tackle them. Register by Instructor. Spring semester.

EC 301 - Intermediate Microeconomics
4.00 credits. Description of the theory of the consumer and the firm. Topics include analytical treatment of maximization of utility and profits, resource use and allocation, market structures and welfare analysis. **Prerequisite(s):* EC 102.

EC 302 - Intermediate Macroeconomics
4.00 credits. The course describes macroeconomic theories to explain the business cycle. Factors affecting major macroeconomic variables such as gross domestic product, inflation and interest rates. Policies for attaining full employment and price stability. **Prerequisite(s):* EC 101.

EC 307 - International Economics
4.00 credits. The basic concepts of international trade and payments. Impact of globalization. Commercial policy. Role of multilateral institutions. **Prerequisite(s):* EC 101.

EC 309 - Introduction to Mathematical Economics
4.00 credits. The course provides an introduction to techniques of mathematical modeling in economics and business. Linear algebra. Cramer's Rule. Comparative statics. Differential calculus. Unconstrained and constrained optimization. First order and second order conditions for an extremum. Dynamic optimization. Use of mathematical software. Several applications in microeconomics, macroeconomics, operations management and finance. **Prerequisite(s):* MA 117.

EC 311 - Economic Development
4.00 credits. Theories of international trade and economic growth. Capital flows. Migration. Role of institutions and NGOs. Policies for improving social welfare. Emphasis on developing countries. **Prerequisite(s):* EC 101.

EC 370-378 - Special Topics in Economics
Variable credit. Courses of special interest to the student and the instructor offered on an occasional basis. This course is repeatable for credit.

EC 400 - Senior Project in Economics
0.00 credit. Students who have been invited and accepted to participate in the Honors in the Discipline Program may register for this course in the semester in which the research or creative project is completed. Completion of this course does not assure recognition for Honors in the Discipline. See Department Chair for additional information. **Prerequisite(s):* Invitation to Honors in the Discipline Program. Graded Pass/No Pass. Register by Instructor.

EC 410 - Econometrics
4.00 credits. The course provides an introduction to econometrics, a branch of economics associated with statistical methods and applied data analysis. It provides both theoretical and applied frameworks necessary for data analyses. Both mathematical statistics and basic Stata programing are introduced. Some topics include simple and multiple regression models, problems with regression such as causality, heteroskedasticity, multicollinearity and omitted variables are discussed along with time series and instrumental variables. **Prerequisite(s):* MA 251, EC 101, and EC 102.

EC 480-489 - Independent Study in Economics
Variable credit. Independent study and research on a problem or topic in the field of economics. **Prerequisite(s):* Permission of the Department Chair and Independent Study Committee. Register by Instructor. This course is repeatable for credit.

Department of Chemistry and Biochemistry

Kneas (Chair), Hagan, Hoffman, MacKay, Rood

The Department of Chemistry and Biochemistry at Elizabethtown College is a community of learners—students, faculty, and staff—dedicated to furthering an understanding of chemistry and its role in the world around us. Our departmental mission is to sustain an engaging and supportive learning environment and offer relevant programs in chemistry and biochemistry that advance our undergraduate students' pursuit of career and life goals.

For more information, please visit the Department's website or check your course syllabi, which are available through the course instructor or at the High Library.

Chemistry courses contribute to both the liberal arts component and the professional component of the balanced studies that Elizabethtown seeks to foster. Students may choose chemistry as a major area of study leading to a career that requires a detailed knowledge of chemistry, as a coherent minor area of study, as an elective course or courses, or as part of their Core Program requirements.

Students majoring in chemistry typically go on to graduate studies in chemistry or biochemistry, to the study of medicine, to hospital or industrial laboratories, to secondary education or to business positions in the chemical and pharmaceutical industry.

Professional Accreditation

The Department of Chemistry and Biochemistry is on the approved list of the American Chemical Society Committee on Professional Training.

Majors Offered

The Department offers majors in **Biochemistry** and **Chemistry**, with five possible chemistry concentrations. The Chemistry major offers five concentrations: the American Chemical Society Approved Professional Chemistry curriculum, the **Secondary Education Certification**, the Chemistry Management curriculum, the Chemical Physics curriculum and the Forensic Science curriculum.

Cooperative Programs with Other Institutions

The Chemistry and Biochemistry Department participates in the **Cooperative Osteopathic Medicine program with Philadelphia College of Osteopathic Medicine**.

Minors Offered

The Department offers minors in **Biochemistry** and **Chemistry**. These minors prepare students to apply chemical concepts and practices in their major discipline. The Department also participates in the **General Science Minor**.

Additional options may be tailored to the student's needs in consultation with the student's advisor and the Department Chair. Students planning much work in chemistry should consult with a Departmental advisor as early as possible to plan the sequence of courses in chemistry, mathematics, physics and biology that will be to their greatest advantage. Many upper-level chemistry courses have calculus and physics courses as prerequisites. The sequence in secondary education also requires early planning to ensure proper spacing of education courses.

Honors in the Discipline

The Department of Chemistry and Biochemistry participates in the College Honors in the Discipline Program. For guidelines, students should consult the Department Chair.

Biochemistry (B.S.)

Student Learning Outcomes for Biochemistry:

Students will be able to:

- Explain fundamental chemistry and biochemistry concepts.
- Communicate chemical and biochemical knowledge.
- Research a chemical and biochemical problem or concept.
- Design, execute, and interpret experiments to solve chemical and biochemical problems.
- Draw connections to other fields of study.
- Work as a member of a team.
- Envision and pursue multiple paths for purposeful life work.

The **Biochemistry major** prepares students for medical school or other health professional schools, graduate study in biochemistry and related fields, or employment that requires baccalaureate education.

The Biochemistry curriculum requires:

- CH 105 - NPS Fundamentals of Chemistry: Introduction to Molecular Science
- CH 113 - Organic Chemistry I
- CH 114 - Organic Chemistry II
- CH 201 - Laboratory Methods in Chemistry
- CH 214 - Chemical Instrumentation
- CH 242 - Physical Inorganic Chemistry
- CH 323 - Biochemistry I
- CH 324 - Biochemistry II
- CH 326 - Techniques of Biochemistry I
- CH 327 - Techniques of Biochemistry II
- CH 343 - Atoms and Molecules
- CH 344 - Physical Chemistry of Matter
- CH 355 - Integrated Chemistry Laboratory I
- CH 361 - Chemistry Seminar I
- CH 362 - Chemistry Seminar II
- CH 461 - Chemistry Seminar III
- CH 462 - Chemistry Seminar IV
- BIO 111 - Molecules, Cells, and Animal Systems
- BIO 112 - Principles of Evolution, Ecology, and Diversity of Life

- BIO 324 - General Physiology
- BIO 324L - General Physiology Laboratory
- Three additional credits of Biology with emphasis on genetics
- Three credits of Biology or Chemistry
- MA 121 - MA Calculus I
- MA 122 - Calculus II
- PHY 200 - College Physics I
- PHY 201 - College Physics II

Four credits from among:

- CH 491 - Research in Chemistry
- CH 492 - Research in Chemistry
- CH 496 - Independent Problems in Chemistry

Chemistry (B.S.)

Student Learning Outcomes for Chemistry:

Students will be able to:

- Explain fundamental chemistry concepts.
- Communicate chemical knowledge.
- Research a chemical problem or concept.
- Design, execute, and interpret experiments to solve chemical problems.
- Draw connections to other fields of study.
- Work as a member of a team.
- Envision and pursue multiple paths for purposeful life work.

The **Chemistry major** offers five concentrations: the American Chemical Society Approved Professional Chemistry curriculum, the Secondary Education Certification, the Chemistry Management curriculum, the Chemical Physics curriculum and the Forensic Science curriculum.

All Chemistry majors must take:

- CH 105 - NPS Fundamentals of Chemistry: Introduction to Molecular Science
- CH 113 - Organic Chemistry I
- CH 114 - Organic Chemistry II
- CH 201 - Laboratory Methods in Chemistry
- CH 214 - Chemical Instrumentation
- CH 242 - Physical Inorganic Chemistry
- CH 343 - Atoms and Molecules
- CH 361 - Chemistry Seminar I

- CH 362 - Chemistry Seminar II
- MA 121 - MA Calculus I
- MA 122 - Calculus II
- PHY 200 - College Physics I
- PHY 201 - College Physics II

American Chemical Society (ACS) concentration

The **American Chemical Society (ACS) concentration** prepares the student for graduate school or for a career in industrial or government laboratories. The ACS-approved curriculum requires:

- CH 323 - Biochemistry I
- CH 324 - Biochemistry II
- CH 326 - Techniques of Biochemistry I
- CH 344 - Physical Chemistry of Matter
- CH 344L - Physical Chemistry of Matter Laboratory
- CH 355 - Integrated Chemistry Laboratory I
- CH 356 - Integrated Chemistry Laboratory II
- CH 461 - Chemistry Seminar III
- CH 462 - Chemistry Seminar IV
- BIO 111 - Molecules, Cells, and Animal Systems
- BIO 112 - Principles of Evolution, Ecology, and Diversity of Life (recommended for Pre-Med students only)

Two courses from among:

- CH 402 - Advanced Inorganic Chemistry
- CH 414 - Advanced Instrumental Analysis
- CH 421 - Advanced Organic Chemistry

Four credits from among:

- CH 491 - Research in Chemistry
- CH 492 - Research in Chemistry
- CH 496 - Independent Problems in Chemistry

Chemistry Management option

The **Chemistry Management option** is preparation for sales or management positions in chemical and related industries. The chemistry management curriculum requires:

- CH 323 - Biochemistry I

- CH 326 - Techniques of Biochemistry I or
- CH 355 - Integrated Chemistry Laboratory I

- CH 461 - Chemistry Seminar III

- CH 462 - Chemistry Seminar IV
- One additional Chemistry course
- BIO 111 - Molecules, Cells, and Animal Systems
- AC 101 - Introduction to Accounting
- BA 215 - Principles of Marketing
- BA 265 - Management and Organizational Behavior
- BA 325 - Corporate Finance
- BA 330 - Legal Environment of Business
- BA 466 - Operations and Production Management
- EC 101 - Principles of Macroeconomics

Chemical Physics curriculum

The **Chemical Physics curriculum** is a foundation for work at the interface between chemistry and physics. This curriculum requires:

- CH 344 - Physical Chemistry of Matter
- CH 344L - Physical Chemistry of Matter Laboratory
- CH 355 - Integrated Chemistry Laboratory I
- CH 356 - Integrated Chemistry Laboratory II
- CH 461 - Chemistry Seminar III
- CH 462 - Chemistry Seminar IV
- MA 222 - Calculus III
- PHY 202 - College Physics III

At least three courses (8 credits) from among:

- CH 402 - Advanced Inorganic Chemistry
- CH 414 - Advanced Instrumental Analysis
- CH 421 - Advanced Organic Chemistry
- MA 201 - Linear Algebra
- MA 321 - Differential Equations
- MA 351 - Theory of Probability
- MA 425 - Complex Variables
- Approved 300- or 400-level Physics courses

At least four credits from among:

- CH 491 - Research in Chemistry
- CH 492 - Research in Chemistry
- CH 496 - Independent Problems in Chemistry

Forensic Science curriculum

The **Forensic Science curriculum** introduces students to the field of forensic science, preparing them for graduate school or for a career in the laboratory. The track provides a solid background in chemistry, along with some

additional courses that would be of benefit for someone interested in pursuing a career in forensic science. The Forensic Science curriculum requires:

- CH 109 - NPS Introduction to Forensic Science
- CH 110 - Forensic Science Laboratory
- CH 323 - Biochemistry I
- CH 326 - Techniques of Biochemistry I
- CH 355 - Integrated Chemistry Laboratory I
- CH 356 - Integrated Chemistry Laboratory II
- CH 414 - Advanced Instrumental Analysis
- AN 363 - Forensic Anthropology
- BIO 111 - Molecules, Cells, and Animal Systems
- BIO 112 - Principles of Evolution, Ecology, and Diversity of Life
- BIO 211 - Genetics
- MA 251 - MA Probability and Statistics
- SO 217 - U.S. Criminal Justice System

Four credits from among:

- CH 471 - Internship in Forensic Science
- CH 491 - Research in Chemistry
- CH 492 - Research in Chemistry

Chemistry and Biochemistry Programs with Other Institutions

Cooperative Osteopathic Medicine program with Philadelphia College of Osteopathic Medicine (PCOM)

Elizabethtown College has an agreement for preferred admission to Philadelphia College of Osteopathic Medicine (PCOM) following either three years (3+4 program) or four years (4+4 program) at Elizabethtown College. If admitted to PCOM, students in the 3+4 program are granted a baccalaureate degree from Elizabethtown College following completion of the first year of courses at PCOM with grades of C or higher. For the 3+4 program, the student must have a GPA of at least 3.1 in science courses and an overall GPA of at least 3.1 by the end of his or her sophomore year of college. For the 4+4 program, the student must have a GPA of at least 3.0 in science courses and an overall GPA of at least 3.0 by the end of his or her junior year of college. Students in both programs must pursue a major at Elizabethtown that leads to a bachelor of science degree in Biochemistry (3+4 and 4+4 options), Chemistry (4+4 option only), or Biology. Degree requirements for the 4+4 Chemistry and 4+4 Biochemistry Programs are found in the course catalog for those majors.In order to complete in the Biochemistry 3+4 accelerated program student are required to complete chemistry research during a summer session. Addition fees will apply. Required courses for the 3+4 Biochemistry Program are listed below. For additional program information and admissions requirements, contact Dr. Diane Bridge or Dr. Kristi Kneas.

- CH 105 - NPS Fundamentals of Chemistry: Introduction to Molecular Science
- CH 113 - Organic Chemistry I
- CH 114 - Organic Chemistry II
- CH 201 - Laboratory Methods in Chemistry
- CH 214 - Chemical Instrumentation
- CH 242 - Physical Inorganic Chemistry

- CH 323 - Biochemistry I
- CH 324 - Biochemistry II
- CH 326 - Techniques of Biochemistry I
- CH 327 - Techniques of Biochemistry II
- CH 343 - Atoms and Molecules
- CH 344 - Physical Chemistry of Matter
- CH 361 - Chemistry Seminar I
- CH 362 - Chemistry Seminar II
- BIO 111 - Molecules, Cells, and Animal Systems
- BIO 112 - Principles of Evolution, Ecology, and Diversity of Life
- BIO 324 - General Physiology
- BIO 324L - General Physiology Laboratory
- MA 121 - MA Calculus I
- MA 122 - Calculus II
- PHY 200 - College Physics I
- PHY 201 - College Physics II

Four credits from among:

This requirement MUST be completed during the summer. Additional fees will apply.

- CH 491 - Research in Chemistry
- CH 492 - Research in Chemistry
- CH 496 - Independent Problems in Chemistry

Fourth year course requirements to be satisfied during first year at PCOM:

- CH 355 - Integrated Chemistry Laboratory I (DO140A, B & C)
- CH 461 - Chemistry Seminar III (DO138A)
- CH 462 - Chemistry Seminar IV (DO144)
- Six credits of Biology and Biochemistry (emphasis on genetics) (DO121)

Chemistry Secondary Education (B.S.)

Student Learning Outcomes for Secondary Education:

Students will be able to:

- Explain fundamental chemistry concepts.
- Communicate chemical knowledge.
- Research a chemical problem or concept.
- Design, execute, and interpret experiments to solve chemical problems.
- Draw connections to other fields of study.

- Work as a member of a team.
- Envision and pursue multiple paths for purposeful life work.

The **Secondary Education curriculum** (Chemistry Education) prepares students for high school teaching.

The Secondary Education curriculum requires:

- CH 105 - NPS Fundamentals of Chemistry: Introduction to Molecular Science
- CH 113 - Organic Chemistry I
- CH 114 - Organic Chemistry II
- CH 201 - Laboratory Methods in Chemistry
- CH 214 - Chemical Instrumentation
- CH 242 - Physical Inorganic Chemistry
- CH 323 - Biochemistry I

- CH 326 - Techniques of Biochemistry I or
- CH 355 - Integrated Chemistry Laboratory I

- CH 343 - Atoms and Molecules
- CH 361 - Chemistry Seminar I
- CH 362 - Chemistry Seminar II
- One additional Chemistry course
- BIO 111 - Molecules, Cells, and Animal Systems
- BIO 112 - Principles of Evolution, Ecology, and Diversity of Life
- MA 121 - MA Calculus I
- MA 122 - Calculus II
- PHY 200 - College Physics I
- PHY 201 - College Physics II

Education Courses:

- ED 105 - Foundations of Teaching and Learning
- ED 151 - Early Adolescent/Adolescent Development
- ED 161 - Integrated Technology I
- SED 222 - Foundations of Inclusive Education (MSE 522)
- ED 305 - Methods of Secondary Education
- ED 341 - ELL: Linguistic and Cultural Diversity in the Classroom
- ED 470 - Professional Internship
- ED 497 - Senior Seminar for Secondary Education
- Two English courses for Education certification, one literature and one writing (EN 100 or EN 150)

Biochemistry Minor

The Biochemistry minor requires:

- CH 105 - NPS Fundamentals of Chemistry: Introduction to Molecular Science

- CH 113 - Organic Chemistry I
- CH 114 - Organic Chemistry II
- CH 201 - Laboratory Methods in Chemistry
- CH 323 - Biochemistry I
- CH 324 - Biochemistry II

- CH 326 - Techniques of Biochemistry I and
- CH 327 - Techniques of Biochemistry II
  or
- BIO 212 - Cell Biology and
- BIO 212L - Cell Biology Laboratory

Chemistry Minor

The Chemistry minor requires:

- CH 105 - NPS Fundamentals of Chemistry: Introduction to Molecular Science
- CH 113 - Organic Chemistry I
- CH 114 - Organic Chemistry II
- CH 201 - Laboratory Methods in Chemistry
- CH 214 - Chemical Instrumentation
- At least four additional credits of advanced Chemistry electives as approved by the Department faculty

Chemistry Courses

CH 101 - NPS General Chemistry: Practical Principles
4.00 credits. **(Natural and Physical Science Core Course)** This course is a one-semester survey of chemistry intended primarily for non-science majors. The main objective is to raise the students' awareness of the chemistry in the world around them and to allow them to appreciate its importance and purpose. Chemistry is in the air, lakes, rivers, our clothes, computers, food, our bodies – in essence, it is everywhere. Chemistry is also in the news when we hear about forensic analysis, DNA sequencing, drug design, new ceramic or plastic materials, new computer chips, . . . This course presents chemistry in the context of real-world examples, be it in the area of forensics, food chemistry, chemistry of the body, and the like; the specific choice is left to the instructor. The examples presented lead to the introduction of scientific and chemical principles, which are then applied to achieve an appropriate solution or understanding. **Prerequisite(s):* High school algebra. **Corequisite(s):* CH 101L. Hours: lecture, 3; laboratory, 3. Spring semester.

CH 105 - NPS Fundamentals of Chemistry: Introduction to Molecular Science
4.00 credits. **(Natural and Physical Science Core Course)** An introduction to the study of the material world from a conceptual, model-building viewpoint. Topics include: elements and compounds, atomic composition and electronic structure, bonding and molecular structure, physical properties, thermodynamics and reaction kinetics. **Prerequisite(s):* High school chemistry and algebra. **Corequisite(s):* CH 105L. Hours: lecture 3, laboratory 3. Fall semester.

CH 109 - NPS Introduction to Forensic Science
4.00 credits. **(Natural and Physical Science Core Course)** Scientific principles are applied to the analysis of evidence found at a crime scene. Fingerprints, bloodstains, drugs, paint chips, broken glass, and strands of hair are all valuable evidence for solving crimes, but only if they are properly collected and analyzed. This course provides

an overview of the field of forensic science and ties in the scientific concepts underlying the various techniques. Fall semester.

CH 110 - Forensic Science Laboratory
2.00 credits. Designed to parallel the topics covered in CH 109. Analytical methods for analyzing evidence commonly found at crime scenes. Microscopic, wet bench and instrumental techniques are covered. **Prerequisite(s):* CH 109. Spring semester.

CH 113 - Organic Chemistry I
4.00 credits. Topics include formulas, stoichiometry, bonding, geometry, equilibrium, reactivity, kinetics and instrumentation applied to carbon compounds. The importance of organic compounds across disciplines and in everyday life will be emphasized. **Prerequisite(s):* a grade of C- or above in CH 105. **Corequisite(s):* CH 113L. Hours: lecture 3, laboratory 3. Spring semester.

CH 114 - Organic Chemistry II
4.00 credits. A continuation of CH 113, emphasizing synthesis and reaction mechanisms. **Prerequisite(s):* a grade of C- or above in CH 113. **Corequisite(s):* CH 114L. Hours: lecture 3, laboratory 3. Fall semester.

CH 201 - Laboratory Methods in Chemistry
2.00 credits. This course presents a number of laboratory techniques that are used in many of the upper-level chemistry (and other science) courses. These techniques include: keeping a laboratory notebook, making careful volumetric and gravimetric measurements, performing statistical analysis and writing a report. **Prerequisite(s):* CH 105. Hours: lecture 1, laboratory 3. Fall semester.

CH 214 - Chemical Instrumentation
4.00 credits. Instrumental methods of analysis. Electrochemical, spectrophotometric, and chromatographic methods are discussed. Laboratory introduces a variety of analytical instruments and associated methods, including computer-based data analysis. **Prerequisite(s):* CH 114 and CH 201. **Corequisite(s):* CH 214L. Hours: lecture 2, laboratory 6. Spring semester.

CH 242 - Physical Inorganic Chemistry
4.00 credits. Thermodynamic stability and bonding in ionic and covalent inorganic substances. Inorganic reactivity in acid-base and oxidation-reduction systems. Some descriptive chemistry of main group and transition metal elements. Laboratory is designed to acquaint students with synthetic methods in organic and inorganic chemistry and purification and identification. **Prerequisite(s):* CH 114. **Corequisite(s):* CH 242L. Hours: lecture 3, laboratory 3. Spring semester.

CH 291 - Independent Research in Chemistry
Variable (1.00 to 3.00) credit(s). An independent experimental or theoretical investigation under the close supervision of a faculty member and designed specifically for students who are too early in their course work to begin CH 491, CH 496, or CH 471. **Prerequisite(s):* Permission of instructor. Register by Instructor. Fall semester. This course is repeatable for credit.

CH 292 - Independent Research in Chemistry
Variable (1.00 to 3.00) credit(s). An independent experimental or theoretical investigation under the close supervision of a faculty member and designed specifically for students who are too early in their coursework to begin CH 491, CH 496 or CH 471. **Prerequisite(s):* Permission of instructor. Register by Instructor. Spring semester. This course is repeatable for credit.

CH 323 - Biochemistry I
3.00 credits. 3.00 credits. The integration of principles introduced in previous courses, including general biology, general chemistry, and organic chemistry, applied towards an understanding of living matter. Structures, functions, and metabolism of the major classes of biomolecules are emphasized. **Prerequisite(s):* BIO 111, and either CH 201 or CH 242. Fall semester.

CH 324 - Biochemistry II
3.00 credits. A continuation of CH 323, with an emphasis on the integration and regulation of metabolism of biomolecules. **Prerequisite(s):* CH 323. Spring semester.

CH 326 - Techniques of Biochemistry I
2.00 credits. Techniques used in experimental investigations in biochemistry. **Corequisite(s):* CH 323. Hours: laboratory 4. Fall semester.

CH 327 - Techniques of Biochemistry II
2.00 credits. A continuation of CH 326. **Prerequisite(s):* CH 326 **Corequisite(s):* CH 324. Hours: laboratory 4. Spring semester.

CH 343 - Atoms and Molecules
4.00 credits. An investigation of the fundamental structure of atoms and molecules and their interactions. The basics of quantum mechanics are presented and applied to the systems of interest. Chemical properties are interpreted from the molecular level. Specific application is made to spectroscopy. **Prerequisite(s):* PHY 201 and MA 122. **Corequisite(s):* CH 343L. Hours: lecture 3, laboratory 3. Fall semester.

CH 344 - Physical Chemistry of Matter
3.00 credits. Molecules are brought together to form matter. Building upon the quantum description of the previous course, statistical mechanics is applied leading to the formalism of thermodynamics. This is then extended to the treatment of electrochemistry. The course also covers chemical kinetics from a fundamental perspective. **Prerequisite(s):* CH 343. Hours: lecture 3. Spring semester.

CH 344L - Physical Chemistry of Matter Laboratory
1.00 Techniques used in theoretical and experimental investigations in Physical Chemistry. **Corequisite(s):* CH 344. Hours: laboratory 3.

CH 355 - Integrated Chemistry Laboratory I
1.00 Investigation of a research problem requiring integration and application of knowledge and techniques from several different areas of chemistry. The course is taught jointly by all members of the department. **Prerequisite(s):* Senior standing or permission of instructor. Hours: laboratory 3.

CH 356 - Integrated Chemistry Laboratory II
1.00 Investigation of a research problem requiring integration and application of knowledge and techniques from several different areas of chemistry. The course is taught jointly by all members of the department. **Prerequisite(s):* Senior standing or permission of instructor. Hours: laboratory 3.

CH 361 - Chemistry Seminar I
0.00 credit. Part of a two-semester seminar sequence, CH 361 challenges students to critically evaluate how chemistry is communicated to a range of audiences through the written and spoken word. In addition to completing a major writing piece, students are required to deliver at least one oral presentation, as well as attend and evaluate the oral presentations of their peers. Students must enroll in both CH 361 and CH 362 to receive a letter grade, which is awarded at the completion of CH 362. Hours: seminar 1. Fall semester.

CH 362 - Chemistry Seminar II
1.00 credit. Part of a two-semester seminar sequence, CH 362 challenges students to critically evaluate how chemistry is communicated to a range of audiences through the written and spoken word. In addition to completing a major writing piece, students are required to deliver at least one oral presentation, as well as attend and evaluate the oral presentations of their peers. Students must enroll in both CH 361 and CH 362 to receive a letter grade, which is awarded at the completion of CH 362. **Prerequisite(s):* CH 361. Hours: seminar 1. Spring semester.

CH 370-378 - Special Topics in Chemistry
Variable credit. Study of an advanced topic, experimental or theoretical, of interest to the student. **Prerequisite(s):* Department Chair approval. Register by Instructor. This course is repeatable for credit.

CH 402 - Advanced Inorganic Chemistry
3.00 credits. A study of the elements and their compounds based upon atomic and molecular structure. **Prerequisite(s):* CH 344. Hours: lecture 3. Fall semester.

CH 414 - Advanced Instrumental Analysis
4.00 credits. Modern analytical methods, applications and instrumentation. **Prerequisite(s):* CH 214. Hours: lecture 2, laboratory 4. Fall or spring semester.

CH 421 - Advanced Organic Chemistry
3.00 credits. A study of organic reactions based on experimental and advanced theoretical studies. **Prerequisite(s):* CH 344. Hours: lecture 3. Fall or spring semester.

CH 461 - Chemistry Seminar III
0.00 credit. Part of a two-semester seminar sequence, CH 461 challenges students to critically evaluate how chemistry is communicated to a range of audiences through the written and spoken word. In addition to completing a major writing piece, students are required to deliver at least one oral presentation, as well as attend and evaluate the oral presentations of their peers. Students must enroll in both CH 461 and CH 462 to receive a letter grade, which is awarded at the completion of CH 462. Hours: seminar 1. Fall semester.

CH 462 - Chemistry Seminar IV
1.00 credit. Part of a two-semester seminar sequence, CH 462 challenges students to critically evaluate how chemistry is communicated to a range of audiences through the written and spoken word. In addition to completing a major writing piece, students are required to deliver at least one oral presentation, as well as attend and evaluate the oral presentations of their peers. Students must enroll in both CH 461 and CH 462 to receive a letter grade, which is awarded at the completion of CH 462. **Prerequisite(s):* CH 461. Hours: seminar 1. Spring semester.

CH 471 - Internship in Forensic Science
6.00 credits. Work experience in a laboratory that performs forensic science analysis. The laboratory must be an ASCLD-certified laboratory (listed at www.ascld-lab.org/legacy/aslablegacylaboratories.html). The internship is normally performed during the summer months and need not be located near the College. Register by Instructor. This course is repeatable for credit.

CH 472 - Internship in Chemistry
Variable credit. Students gain off-campus work experience in a chemical or biochemical laboratory. **Prerequisite(s):* Approval of the department chair Register by Instructor. This course is repeatable for credit.

CH 480-489 - Independent Study in Chemistry or Biochemistry
Variable credit. Individual study in areas of interest for students capable of conducting independent research. **Prerequisite(s):* Approval of the Department Chair and the Independent Study Committee. Register by Instructor. This course is repeatable for credit.

CH 491 - Research in Chemistry
Variable (1.00 to 4.00) credit(s). An original experiment or theoretical investigation under the close supervision of a faculty member. Experimental design and a written report are required. Register by Instructor. Fall semester. This course is repeatable for credit.

CH 492 - Research in Chemistry
Variable (1.00 to 4.00) credit(s). An original experiment or theoretical investigation under the close supervision of a faculty member. Experimental design and a written report are required. Register by Instructor. Spring semester. This course is repeatable for credit.

CH 496 - Independent Problems in Chemistry
Variable (1.00 to 4.00) credit(s). An independent experimental or theoretical investigation under the close supervision of a faculty member. Experimental design and a written report are required. **Prerequisite(s):* Permission of the instructor. Register by Instructor. This course is repeatable for credit.

Honors Chemistry Courses

HCH H207 - HNR NPS Chemistry and Politics of Cancer and AIDS
4.00 credits. **(Natural and Physical Science Core Course - Honors)** This interdisciplinary course seeks to rectify the science of two deadly diseases with the public policy that has been established around these diseases. Many of us have preconceived notions about how we view AIDS and cancer, but does the actual biochemical basis of these diseases correlate well with their corresponding public policies? Register by Instructor.

Department of Communications

Gillis (Chair), Johnson, Helb, Poniatowski, Telleen, Wennberg

For more information, please visit the Department's website or check your course syllabi, which are available through the course instructor or at the High Library.

The Department of Communications offers a comprehensive preparation in the professional field of communications, firmly grounded in a well-rounded liberal arts education. In addition to developing written, spoken and performance skills, students learn communications theories, media design, management and production.

Advanced courses in oral presentation, media management, graphics, writing, audio and video production, new media, corporate communications and cultural communications, among others, permit majors to advance into this discipline.

Department facilities are located in the Steinman Center for Communications and Fine Arts. This Center contains modern equipment in audio and video studios, and graphics and multi-image laboratories. The student-operated media stations, WWEC 88.3 FM and ECTV Channel 40, are housed in the Center. Additionally, the student-run newspaper, The Etownian, is advised by the Department. The Department also operates a citizen journalism news website, www.wetown.org.

The curriculum is complemented by a number of Departmental organizations: WWEC-FM radio, Photography Club, Society for Collegiate Journalists (honorary society), International Association of Business Communicators (student chapter), ECTV-40 and others. The Etownian provides excellent journalism experiences for majors. These organizations sponsor speakers, workshops, contests and field trips to enhance campus life while making the student's classroom experience more meaningful.

The curriculum, along with the many co-curricular activities, prepares majors for careers in corporate and institutional communications, public relations, marketing communications, broadcasting and media production related fields, journalism, newspaper and magazine writing and reporting, advertising, sales, law and many more fields.

Majors Offered

The Department offers a major in **Communications** with two concentrations. Students may select a concentration from the following: **Corporate Communications** (public relations and marketing) or **Mass Communications**.

Minors Offered

A **Communications minor** is offered to students majoring in other programs. The minor permits students to reach a level of competency in written, spoken and visual communications to complement their primary area of preparation.

Internships and Practica

Out-of-classroom, on-the-job field experiences are encouraged of all majors and minors. An experience linking the academic world and the work world can enable an advanced student to apply – in a practical way – understandings and abilities in a career-related position. Practica may be elected by majors and minors at the sophomore level and above and are available for one, two or three semester credits with on- or off-campus sponsors. They are repeatable to a maximum of four credits and may count only as general elective credit. Internship credits also count only as

general elective credits. They are available only to seniors and must be taken only for 12 semester credits (requiring the internship to be the equivalent of a full-time position for an entire semester). Additionally, the internship option requires an overall 2.70 grade point average and a 3.00 grade point average in the major. The Department's "Guide to the Preparation of Internships" serves as an outline of procedures and requirements for an internship. Students are permitted to seek their own positions for either option or to select one from the many opportunities already listed with regional communications organizations.

General Information

All students must have a 2.00 grade point average to declare the major or minor and enroll in any courses above the 100 level.

Honors in the Discipline

The Department of Communications participates in the College Honors in the Discipline Program. Communications majors with a GPA of at least 3.6 in the major and 3.5 overall by the end of the fall semester of their junior year are invited to explore a topic of their choosing and produce a major work in consultation with the student's honors committee. A public oral presentation of the work is also expected. This experience is offered by invitation only.

Communications (B.A.)

Student Learning Outcomes for Communications:

Students will be able to:

- Write effective communication materials for a variety of contexts.
- Effectively demonstrate competencies in oral communication.
- Demonstrate competencies in media production.
- Use critical thinking skills in the application of communication theories.
- Plan and implement communication productions that address organizational challenges.
- Demonstrate leadership abilities through effective program and production management including independent, experiential learning, and collaborative endeavors.
- Conduct all work in an ethical manner.

The Communications major requires 32 common credits:

- COM 120 - Introduction to Communications Theory and Practice
- COM 130 - Visual Communications
- COM 210 - Public Performance and Presentation
- COM 211 - Introduction to Writing Across the Media
- COM 248 - Communication Law and Ethics
- COM 330 - Communication Research Methods
- COM 333 - Organizational Communication

- COM 485 - Communications Capstone

Note: Students must declare a concentration of study by the beginning of their sophomore year (second year) and transfer students (internal or from other institutions) must declare a concentration of study upon declaring the communications major. Declaring the concentration late could result in students taking additional semesters of study to complete course work in proper sequence. To maintain the integrity and unique quality of the concentrations, most courses will not be transferrable between concentrations. Inherent in this assumption: prerequisite courses must be taken in advance of courses, NOT as co-requisites. Although not required, a minor course of study is recommended by the Department of Communications.

The Corporate Communications concentration requires:

- COM 235 - Multimedia Application for Corporate Communication
- COM 351 - Public Relations
- COM 355 - Writing for Corporate Communications
- COM 358 - Introduction to Marketing Communications

Plus two additional Communications electives from the following set of courses:

- COM 251 - International Communications
- COM 252 - HUM Multi-Cultural Communications
- COM 314 - Magazine Management and Feature Writing
- COM 370-378 - Special Topics in Communications
- COM 412 - Advanced Public Relations

The Mass Communications concentration requires:

- COM 220 - Audio Applications and Techniques
- COM 230 - Video Applications and Techniques
- COM 310 - Digital Media Convergence and Design
- COM 316 - Writing and Reporting for Broadcast
- COM 410 - Advanced Production

Plus one additional Communications elective from the following set of courses:

- COM 251 - International Communications
- COM 252 - HUM Multi-Cultural Communications
- COM 314 - Magazine Management and Feature Writing
- COM 351 - Public Relations
- COM 358 - Introduction to Marketing Communications
- COM 370-378 - Special Topics in Communications
- COM 424 - Script and Screenwriting

Communications Minor

A **Communications minor** is offered to students majoring in other programs. The minor permits students to reach a level of competency in written, spoken and visual communications to complement their primary area of preparation.

The 24 credits required for a Communications minor include:

- COM 120 - Introduction to Communications Theory and Practice
- COM 130 - Visual Communications
- COM 210 - Public Performance and Presentation
- COM 211 - Introduction to Writing Across the Media

Two Communications electives from:

- COM 220 - Audio Applications and Techniques
- COM 230 - Video Applications and Techniques
- COM 235 - Multimedia Application for Corporate Communication
- COM 248 - Communication Law and Ethics
- COM 316 - Writing and Reporting for Broadcast
- COM 333 - Organizational Communication
- COM 351 - Public Relations
- COM 355 - Writing for Corporate Communications
- COM 358 - Introduction to Marketing Communications

Communications Courses

COM 105 - Fundamentals of Speech
4.00 credits. Basic instruction on developing poise and confidence in speaking. Emphasis is placed on verbal and nonverbal communications, research, outlining, speech preparation, use of visual aids, and the rudiments of group dynamics and discussion. Spring semester, odd-numbered years.

COM 120 - Introduction to Communications Theory and Practice
4.00 credits. In this course students study communication as a field of study focusing both on human and mediated communication (news, persuasion, entertainment). As theories provide the means to understand, explain, predict and implement communication processes and events. This course will also expose students to significant media history to inform the current applications of media in society, business and mass communication environments. *This course is required of all Communications majors and minors.

COM 130 - Visual Communications
4.00 credits. In this course students study the design, theory and development of production in visual communication including digital photography, new media design and basic print design principles. Students will apply aesthetics and concepts learned to the production of visual media projects. **Prerequisite(s):* Declared or intended communications major or declared communications minor or permission of the instructor.

COM 145 - CE Digital Photography (ART 145)
4.00 credits. **(Creative Expression Core Course)**
This is a course in beginning digital photography. Photography will be dealt with as a photojournalistic form and an art form. No prior knowledge or experience in the arts or photography is expected. Demonstrations and supervised lab periods will be used to instruct students in basic camera and PhotoShop techniques of digital photography. Individual and group critiques/discussions of student photography will be held. Discussion of photographic history, criticism and aesthetics will be used to help the student understand class projects and to increase appreciation of photographic traditions and contemporary trends.

COM 210 - Public Performance and Presentation
4.00 credits. Students become proficient at translating the written word into a professional oral performance. Exercises and projects develop competence in a variety of areas appropriate to any of the Communications concentrations that may be chosen by a major. This course is an advanced professional speaking course, which allows students to experience various presentation formats with the focus on one organization. **Prerequisite(s):* COM 120.

COM 211 - Introduction to Writing Across the Media
4.00 credits. In this course students study the application and importance of clear, logical writing necessary for success in print, broadcast and online project management. Grammar, language skills and Associated Press style will be introduced and refined. **Prerequisite(s):* COM 120.

COM 220 - Audio Applications and Techniques
4.00 credits. The technical and aesthetic fundamentals of the radio industry and audio production fields are explored in this course, including an advanced examination of writing and production materials for radio/audio programming. An in-depth analysis of the audio medium - including commercials, news, documentaries, digital editing and special programs - will be undertaken. Through the development of analytical, technical and critical skills, the student will become knowledgeable in writing and producing a complete range of audio projects. A general overview of the history of audio broadcasting is included. Students are required to purchase production materials for the course. **Prerequisite(s):* COM 120 and COM 130. Spring semester.

COM 230 - Video Applications and Techniques
4.00 credits. The technical and aesthetic fundamentals of the television industry and video production fields are explored in this course, including an advanced examination of writing and production materials for television/video programming. An in-depth analysis of the video medium, including commercials, news, documentaries, digital editing and special programs, will be undertaken. Through the development of analytical, technical and critical skills, the student will become knowledgeable in writing and producing a complete range of video projects. A general overview of the history of video broadcasting is included. Students are required to purchase production materials for the course. **Prerequisite(s):* COM 120 and COM 130. Fall semester.

COM 235 - Multimedia Application for Corporate Communication
4.00 credits. This course addresses theory and principles of multimedia (audio and video) as applied in business and organizational settings. This course emphasizes achieving an organization’s goals through informing, persuading, and entertaining while applying the foundations of theory, planning, scripting, storyboarding, and production. **Prerequisite(s):* COM 120 and COM 130. Fall semester.

COM 248 - Communication Law and Ethics
4.00 credits. An examination of the law related to the field of communications as well as its history and effects. Current ethical issues are explored through case studies. Analysis of legal and ethical issues affecting the media - including the First Amendment, defamation, privacy, news gathering, obscenity, copyright and broadcasting/telecommunications - and the views of philosophers from Socrates to the present. **Prerequisite(s):* COM 120.

COM 251 - International Communications
4.00 credits. The course is an examination of the systems of communications around the world. It is designed to examine the human experience as an American by exploring the sociocultural, economic, political and scientific/technical impact of communications. Spring semester, odd-numbered years.

COM 252 - HUM Multi-Cultural Communications
4.00 credits. **(Humanities Core Course)**
The course is designed to study issues of diversity and the media by investigating the audience, content and institutions of communications. Cultural perceptions will be explored as they relate to an individual's beliefs on diversity such as race, ethnicity, gender, sexual orientation, religion, age, class and disability. A research and field experience will challenge students to analyze and formulate their own views. Fall semester.

COM 261 - Introduction to Cinema
4.00 credits. This course is an introduction to cinema studies including the history of cinema, methodologies of filmmaking and criticism, and critical analysis of film. Throughout the semester, students will learn to actively watch and analyze a variety of films, as well as the general application of critical film analysis, the history of film from the early experimental films produced at the turn of the century through the rise of the "Studio System," alternative cinema and "New Hollywood," and contemporary filmmaking. Major film theories and theorists will be explored contemporaneously and critically analyzed.

COM 310 - Digital Media Convergence and Design
4.00 credits. This course is an examination of convergence in mass media and how that convergence impacts website design. Through theory, application and practice, students will learn about media convergence and its place in the new media landscape. Emphasis will be placed on proper design and evaluation of websites. **Prerequisite(s):* COM 120 and COM 130. Fall semester.

COM 314 - Magazine Management and Feature Writing
4.00 credits. This course focuses on the writing, editing, production and management skills in the magazine publishing industry. Skills needed to write as a freelance writer and staff writer in the magazine industry are developed. Story titles, openings, closings, structures, research and query letters are examined. The impact of new media on the traditional print magazine also is explored. The course culminates with the production of a mass circulation publication - The Jay Crew magazine. **Prerequisite(s):* COM 211. Spring semester, odd-numbered years.

COM 316 - Writing and Reporting for Broadcast
4.00 credits. This course serves as an introduction to the styles and techniques of writing for the broadcast media. Emphasis is given to conceptualizing, writing and editing news copy for television and radio as well as copy for commercial and public service campaigns. **Prerequisite(s):* COM 211, COM 220 and COM 230. Fall semester.

COM 330 - Communication Research Methods
4.00 credits. In this course students use social science methods to analyze the role of communications (corporate and mass communication) to solve current challenges. Students will pursue research projects in which theories are applied and tested using the scientific method. Students learn both theoretical and methodological concepts for documenting applied research in communications, including but not limited to public opinion polling, market research and qualitative methods, focusing on surveys, content analysis, focus groups and audience analysis. **Prerequisite(s):* Junior standing in the communications major or minor.

COM 333 - Organizational Communication
4.00 credits. Through theory, application and practice, this course explores aspects of organizational communication in order to prepare students for the challenges of organized activity at work, in the community, and in the family. **Prerequisite(s):* COM 120.

COM 351 - Public Relations
4.00 credits. A study of the theory and practice of public relations, its role in administration, its role in society, and its potential as a career. Course content addresses strategies and tactics of public relations in commercial, nonprofit and government organizations. **Prerequisite(s):* COM 211. Fall semester.

COM 355 - Writing for Corporate Communications
4.00 credits. In this course students study a survey of strategic writing activities that address the most common and best practices in corporate communication, included but not limited to project management documents, media relations documents, and corporate media production documents. **Prerequisite(s):* COM 211. Fall semester.

COM 358 - Introduction to Marketing Communications
4.00 credits. Skills are provided in blending concepts and applications of marketing communications that integrate advertising, public relations, sales promotion and other organizational efforts into a strategic viewpoint in a global/international environment. Students are taught from an integrated marketing communications perspective with respect to planning, implementation and control of marketing communications campaigns. **Prerequisite(s):* COM 351. Spring semester.

COM 370-378 - Special Topics in Communications
4.00 credits. Periodic offerings of the Department or directed study in topics of special interest to advanced majors. These courses count as concentration elective credit. This course is repeatable for credit.

COM 410 - Advanced Production
4.00 credits. This team-based production course will challenge students to produce professional projects for local clients that exhibit advanced writing, audio, video and online skills. Project management, teamwork, negotiation, and best practices are at the core of this mass communications course. **Prerequisite(s):* Communications major or minor with a minimum of junior standing in the Department. Register by Instructor. Spring semester.

COM 412 - Advanced Public Relations
4.00 credits. The course provides an opportunity for students to build upon knowledge, skills and expertise in public relations by applying them to the study of actual public relations cases. The analysis and evaluation of actual public relations practice lead the student to a better knowledge of public relations principles, application and management in the profession. Agency projects enhance the application of advanced public relations practices. **Prerequisite(s):* COM 351. Spring semester.

COM 424 - Script and Screenwriting
4.00 credits. Emphasis is placed on identifying the tools used in successful creative writing and then putting them into practice. Through study and practical application, students become familiar with the various visual/audio formats used in dramatic and documentary television and film writing. **Prerequisite(s):* COM 211 or declared Creative Writing minor or permission of the instructor. Spring semester, even-numbered years.

COM 470-473 - Practicum
Variable (1.00 to 3.00) credit(s). Supervised application of previously studied theory by professionals in the field of the student's concentration. Practicum with an on- or off-campus sponsor may be used for free elective credit only, repeatable to a maximum of four credits within a major or minor declaration. **Prerequisite(s):* At least sophomore standing, majors/minors only. Graded Pass/No Pass. Register by Instructor. This course is repeatable for credit.

COM 474 - Internship in Communications
12.00 credits. Supervised application of previously studied theory by professionals in the field of the student's concentration. **Prerequisite(s):* Senior standing, majors only, 2.70 cumulative grade point average with a 3.00 grade

point average in the major. Must be taken for a full semester off campus for free elective credit only. Register by Instructor.

COM 480-484 - Independent Study in Communications
Variable credit. A specially-designed course, unique to each student, allowing the individual the opportunity to pursue scholarly and practical work in the area of major interest under the guidance of members of the Communications faculty. Specific goals and objectives permit the student to complete special projects, literature reviews and research papers. **Prerequisite(s):* At least junior standing, scholarship requirement, and approval of Independent Study Committee. Register by Instructor. This course is repeatable for credit.

COM 485 - Communications Capstone
4.00 credits. A capstone course providing an integration of course work, knowledge, skills and experiential learning to enable the student to demonstrate a broad mastery of professional expectations for a promise of initial employability, further learning and career advancement. Critical thinking, creative thinking, problem-solving strategies, effective written and oral communication, quantitative and qualitative analysis, computer literacy, library competency and mediated communication related to a student's concentration and specific career plans is employed. **Prerequisite(s):* Senior standing and majors only and COM 330. Register by Instructor.

COM 498 - Honors in the Discipline I
2.00 credits. Communications majors of superior ability are invited to explore a topic of their choosing and produce a major work in consultation with the student’s honors committee. A public oral presentation of the work is also expected. **Prerequisite(s):* Communications majors with a GPA of at least 3.6 in the major and 3.5 overall by the end of the fall semester of their junior year. By invitation only. Register by Instructor. Fall semester.

COM 499 - Honors in the Discipline II
2.00 credits. Communications majors of superior ability are invited to explore a topic of their choosing and produce a major work in consultation with the student’s honors committee. A public oral presentation of the work is also expected. This is to be taken following the successful completion of COM 498. **Prerequisite(s):* Communications majors with a GPA of at least 3.6 in the major and 3.5 overall by the end of the fall semester of their junior year. Successful completion of COM 498. By invitation only. Register by Instructor. Spring semester.

Department of Computer Science

Hughes (Chair), Leap, Waughen, Wittman, Zlatarova

For more information, please visit the Department's website or check your course syllabi, which are available through the course instructor or at the High Library.

Computing studies at Elizabethtown College are designed to help students develop knowledge and capabilities needed to meet the requirements of contemporary society as professionals of high quality and also to pursue graduate programs. The courses offered by the Department use the most recent software products and hardware equipment. Students are provided with a strong background in theoretical and application computing areas and are encouraged to pursue interdisciplinary studies because of the broad implementation of information technologies. They are involved in research activities through development of projects, seminars, and internships, which challenge their creativity and require logical thinking. Learning about ethical and moral principles related to computers prepares students not only to be successful professionals possessing high competence in the area of their studies, but also to be members of society who are able to make professionally responsible decisions.

Majors Offered

The Department offers majors in **Computer Science**, **Information Systems** and, in conjunction with the Department of Engineering and Physics, **Computer Engineering**. Each major provides a strong curriculum from which a professional career may be launched or a graduate program pursued.

The Department strongly recommends that all students intending to major in computing sciences purchase their own Microsoft Windows-based personal computer.

Minors Offered

The Department offers minors in **Computer Science** and **Information Systems** that enable majors in other disciplines to obtain recognition for course work in these areas. Department faculty help tailor the elective course selections to meet individual needs of students pursuing a minor.

Honors in the Discipline

The Department of Computer Science participates in the College Honors in the Discipline Program. For guidelines, students should consult the Department Chair.

Computer Science (B.S.)

Student Learning Outcomes for Computer Science:

Students will be able to:

- Apply knowledge of computing and mathematics appropriate to the discipline, including common data structures and basic algorithms.
- Analyze a problem and identify and define the computing requirements appropriate to its solution.
- Explain computer hardware ranging from the basic logic gates and combinational logic circuits through high level computer organization.

- Design, implement, and evaluate a computer-based system, process, component or program, including operating systems and database systems, to meet desired needs.
- Function effectively on teams and use software engineering principles to accomplish a common goal.
- Communicate effectively with a broad range of audiences.
- Explain the local and global impact of computing and the associated professional, ethical, legal, security and social responsibilities.
- Engage in continuing professional development.
- Use current techniques, skills and tools necessary for computing practice, including theory and design of computer languages and their translation into machine operations, programming paradigms including procedural, object oriented and parallel programming, and hardware and software elements of data communications and computer networking.
- Explain processes that support the delivery and management of information systems within a specific application environment.

The Computer Science major requirements are:

- CS 121 - Computer Science I
- CS 122 - Computer Science II
- CS 221 - Algorithms and Data Structures
- CS 222 - Systems Programming (EGR 222)
- CS 309 - Database Systems
- CS 322 - Formal Methods
- CS 332 - Computer Organization and Architecture (EGR 332)
- CS 341 - Systems Analysis and Design
- CS 342 - Computer Networking
- CS 421 - Compiler Design
- CS 422 - Operating Systems (EGR 422)
- MA 121 - MA Calculus I
- MA 122 - Calculus II
- MA 201 - Linear Algebra
- Two Computer Science courses at or above the 200-level, excluding CS 270/BA 270 and CS 271/BA 271. (Students can elect to complete CS 490 or CS 495 as one of the elective options in this major.)

Information Systems (B.S.)

Student Learning Outcomes for International Business:

Students will be able to:

- Apply a strong knowledge related to computing, business, and mathematics in managerial decision making.
- Analyze practical problems, and identify and define the computing requirements appropriate to their solution.

- Design, implement, and evaluate computer-based systems, processes, components, or programs that should meet established national and international standards and specific requirements.
- Communicate effectively with a broad range of people representing different audiences involved in the IS development or implementation processes by using appropriate electronic software products for presentations, data processing, data visualization, and groupware software.
- Analyze the local and global impact of computing on individuals, organizations, and society.
- Choose appropriate hardware and software for specific applications.
- Quickly adapt to new software products and recently developed hardware.
- Develop information systems within a specific application environment by implementing appropriate software engineering methodologies.
- Work effectively as a member of a team to accomplish a common goal.
- Demonstrate a commitment to professional, ethical, legal, security, social and moral issues and responsibilities.
- Be engaged in professional development activities.

The Information Systems major requirements are:

- CS 121 - Computer Science I
- CS 122 - Computer Science II
- CS 221 - Algorithms and Data Structures
- CS 230 - Microcomputer Architecture (EGR 230)
- CS 240 - Information Systems
- CS 309 - Database Systems
- CS 310 - Web Technologies
- CS 341 - Systems Analysis and Design
- CS 342 - Computer Networking
- CS 363 - Computer Security
- CS 409 - Advanced Database Systems
- BA 265 - Management and Organizational Behavior
- BA 330 - Legal Environment of Business

- EC 101 - Principles of Macroeconomics or
- EC 102 - Principles of Microeconomics

- MA 251 - MA Probability and Statistics
- One Computer Science course from the Computer Science major requirements at or above the 200-level, excluding CS 270/BA 270, and CS 271/BA 271.

Computer Science Minor

The Computer Science minor requirements are:

- CS 121 - Computer Science I
- CS 122 - Computer Science II
- CS 221 - Algorithms and Data Structures
- CS 222 - Systems Programming (EGR 222)
- Two Computer Science courses (6 credits minimum) from the Computer Science major requirements at or above the 200-level, excluding CS 270/BA 270, CS 271/BA 271.

Information Systems Minor

The Information Systems minor requirements are:

- CS 121 - Computer Science I
- CS 240 - Information Systems
- CS 309 - Database Systems
- CS 341 - Systems Analysis and Design
- Two Computer Science electives (6 credits minimum) from the Information Systems major requirements at or above the 200-level, excluding CS 270/BA 270, and CS 271/BA 271.

Computer Science Courses

CS 113 - NPS The Power and Beauty of Computing
4.00 credits. **(Natural and Physical Sciences Core Course)** A broad introduction to the discipline of computer science is given with a focus on its deep concepts and powerful impact. An emphasis is placed on seven "big ideas" developed by the CS Principles initiative: creativity, abstraction, data, algorithms, programming, the Internet, and impact. Examples and problems are drawn from other scientific fields and include DNA processing, particle simulation, and projectile motion. Programming projects are done in the introductory Scratch language and Python. Students completing CS 122 or higher (with the exception of CS 270 and CS 271) are prohibited from enrolling in CS 113. Fall semester.

CS 120 - Introduction to Computer Applications
4.00 credits. Provides students with an applied understanding of how software is used to visualize, analyze and exchange business information. The technology layer provides an opportunity to create real-world applications used in different business areas. The course covers the strategic use of information systems and technology in business including the design of spreadsheets for business information analysis, application software to analyze business problems, database software for creating and using information systems, the integration of information from multiple software platforms, and ethical and moral issues in information systems and the Internet.

CS 121 - Computer Science I
4.00 credits. The fundamental concepts of computer organization, machine-level representation of data, algorithmic development and structured programming are presented with an emphasis on the syntactic and execution characteristics of an object-oriented programming language, including data types; arithmetic operators and assignment; input/output, selection and iteration constructs; elementary data structures; and procedural abstraction. NOTE: This course will satisfy Mathematics Core AU for students enrolled prior to Fall 2013.

CS 122 - Computer Science II
4.00 credits. A continuation of the presentation of the computer software essentials. The course surveys fundamental data structures for information processing and corresponding algorithm construction. The implementation of these data structures is considered. Additional topics include recursion, file processing, classes and advanced object-oriented programming techniques. **Prerequisite(s):* CS 121.

CS 221 - Algorithms and Data Structures
4.00 credits. The design of algorithms for handling abstract data types, including stacks, queues, linked lists, trees and graphs is coupled with an introduction to complexity analysis, storage allocation and management. **Prerequisite(s):* CS 122. Fall semester.

CS 222 - Systems Programming (EGR 222)
4.00 credits. This course covers advanced programming and machine representation of data and data structures, including dynamic structures and files. Topics include memory allocation, run-time data organization, function linkage and parameter passing, interrupt processing and the relationship between high level and machine language. **Prerequisite(s):* CS 122. Spring semester.

CS 230 - Microcomputer Architecture (EGR 230)
4.00 credits. Board-level design of microcomputers and the study of various computer architectures and hardware/software computing platforms. Topics include computer ethics, hardware components such as memory registers, central processor types, controllers, peripherals, input/output architecture and devices, memory management, and networking. **Prerequisite(s):* CS 121. Spring semester.

CS 240 - Information Systems
4.00 credits. A study of the development of information systems in the new and changing global environment. It provides knowledge about the nature of information and its use in managerial decision making; the role of information systems within organizational strategy; the way that information is organized, stored and processed by modern information technology as viewed from the interest of the business user; and how developments in networks and the Internet have made an impact on business. Practical skills in using database management systems and other software tools for information system design and development are provided. **Prerequisite(s):* CS 121. Fall semester.

CS 270 - Introduction to Managerial Decision-Making Using Excel I (BA 270)
2.00 credits. This class will provide an introductory level exploration of Microsoft Excel. Various functions, worksheet navigation, and uses of Excel will be major components. **Prerequisite(s):* BA 101, BA 197, EC 101, or EC 102. Register by Instructor.

CS 271 - Managerial Decision-Making Using Advanced Excel Application II (BA 271)
2.00 credits. The course will provide an advanced level exploration of Microsoft Excel through problem solving, analysis, and evaluation. Advanced capabilities, various business/mathematical functions, and applications to business decision-making will be major components. This course aims to prepare students for the Microsoft Office User Specialist certification exam in Excel. **Prerequisite(s):* CS 270. Register by Instructor.

CS 309 - Database Systems
4.00 credits. An introduction to concepts of databases and database management systems including the storage, processing, evaluation, display and security of data. The course represents a study of the database logical and physical design; of the basic management techniques using the most popular data languages, SQL and QBE; and of the different methodologies for database development - the relational approach and the object-oriented approach. Practical skills to create concrete databases and the corresponding information systems using some of the most used software products (Oracle, MS SQL Server, MySQL and MS Access) are considered. **Prerequisite(s):* CS 121. Fall Semester.

CS 310 - Web Technologies
4.00 credits. A study of the architecture and functionality of the Internet and the World Wide Web, including the effects on the way business transactions now occur followed by an in-depth study of website design, including comprehensive coverage of XHTML and the establishment of an interactive website for conducting reliable web-based transactions. Client-side webpage programming in JavaScipt; server-side programming using PHP, ASO and CGI; and interfacing with the databases are included. **Prerequisite(s):* CS 122. Fall semester.

CS 322 - Formal Methods
4.00 credits. Topics include those associated with discrete mathematics as they apply to computing sciences, including induction and recursion in algorithms, graph theory in paths, trees and local area networks. A discussion of grammar classifications, finite-state machines, and push-down automata emphasizing context-free grammars and their use in parsing programming languages. **Prerequisite(s):* CS 122 and MA 121. Spring semester, alternating years.

CS 332 - Computer Organization and Architecture (EGR 332)
4.00 credits. Introduction to Boolean algebra, design of combinational and sequential circuits, and their use in von Neumann computer architecture. Basic parts of computer systems - including memory, control and input-output systems - are studied. The student is expected to design a simple micro-programmed computer. **Prerequisite(s):* CS 121. Fall semester.

CS 333 - Digital Circuits and Computer Interfacing (EGR 333)
4.00 credits. Digital logic and integrated circuits to implement logic; architecture and machine-language programming of mini-computers and microprocessors; design, testing and construction of instrument-to-computer and computer-to-instrument interfaces; design and testing of supporting software. **Prerequisite(s):* CS 332/EGR 332, or permission of the instructor. Hours: lecture 3, laboratory 3. Spring semester, odd-numbered years.

CS 341 - Systems Analysis and Design
4.00 credits. An introduction to system development methodologies, systems analysis, detailed systems design, database design, user interface design, testing, documentation and development of information systems. Knowledge and skills in using CASE tools, different software packages, commercial DBMSs, UML, MS Visio, and MS Project to create, organize, process and visualize their data is gained. **Prerequisite(s):* CS 121. Spring semester.

CS 342 - Computer Networking
4.00 credits. Theory and knowledge of computer networks, the operation of the network, the characteristics of network architecture as it relates to the ISO model and administration, and the security and management of networks are provided. Other topics include network hardware requirements, such as routers, repeaters, gateways, interface cards, file servers, network topology options, and the Internet. **Prerequisite(s):* CS 122. Spring semester.

CS 361 - Computer Graphics
4.00 credits. This course gives an overview of the fundamentals of computer graphics with an emphasis on the real-time rendering done in modern video games. Key topics include the rendering pipeline, transformations, texturing, shading, lighting, hidden surface removal, and other advanced techniques. Related material in geometry and linear algebra will be reviewed as needed. **Prerequisite(s):* CS 221 and MA 201. Spring semester, odd years.

CS 363 - Computer Security
4.00 credits. This course introduces the student to the fundamentals of computer security. Foundational concepts such as confidentiality, integrity, and availability are discussed in the context of both designing systems and evaluating existing systems for vulnerabilities. Cryptography is explored as a tool that can be applied to many aspects of computer security. Theoretical discussions of security principles are enriched by examples from real world systems and protocols. **Prerequisite(s):* CS 122. Spring semesters, even years.

CS 370-378 - Special Topics in Computer Science
4.00 credits. A course designed to allow students to examine topics and problems of current relevance in computer science. **Prerequisite(s):* Permission of the instructor. This course is repeatable for credit.

CS 409 - Advanced Database Systems
4.00 credits. A study of advanced database systems, data warehousing, and data mining. The XML language is considered as a data exchange tool. Security and privacy aspects in databases are discussed. The World Wide Web is used as a database application platform to create web-driven databases working with different visual environments and commercial DBMSs. Practical skills in the design and development of information systems and their application are involved. **Prerequisite(s):* CS 309. Spring semester, alternate years.

CS 421 - Compiler Design
4.00 credits. Design and construction of system software such as compilers, interpreters and assemblers. Topics include command and statement parsing techniques, symbol tables, code generation and code optimization. A project involving design and construction of a working systems program is assigned. **Prerequisite(s):* CS 222. Spring semester, alternate years.

CS 422 - Operating Systems (EGR 422)
4.00 credits. Principles and theories behind the design of operating systems and their practical implementation, including executives and monitors, task handlers, scheduling algorithms, file handlers, device drivers and interrupt handlers, theories of resource allocation and sharing, multiprocessing and interprocess communication. **Prerequisite(s):* CS 222 and CS 332 / EGR 332. Spring semester.

CS 433 - Advanced Computer Engineering (EGR 433)
4.00 credits. Circuit-level design and implementation of complete computer systems. Major laboratory projects require students to design, build, test and demonstrate computer hardware designs using Field Programmable Gate Arrays and bread boarded circuits. Class lectures include design of embedded systems, microcontrollers, microprocessors and supercomputers. **Prerequisite(s):* CS 332/EGR 332. Hours: lecture 3, laboratory 3. Spring semester, even-numbered years.

CS 434 - Green Robotics, Automation, and Machine Intelligence (EGR 434)
4.00 credits. Cutting-edge innovations in robotics, automation, and machine Intelligence that result in the most environmentally-friendly and humanity-sensitive use of technology and resources to manufacture products or aid humans. Various forms of Machine Intelligence including Symbolic AI which uses programmed rules, heuristics, and forms of knowledge representation; and artificial neural networks which are connectionist computer architectures (hardware or software) where many computational nodes are connected to solve problems requiring rapid adaptation, or where governing equations are not known or cannot be easily computed. Mobile-robot and robotic-arm theory, applications, simulations, real-time control, and path-planning strategies are included. **Prerequisite(s):* CS 121 and MA 121. Fall semester, odd-numbered years.

CS 470-474 - Internship in Computing
Variable (1.00 to 8.00) credit(s). Work experience designed to supplement course work. By working for business, school or government, the student gains valuable knowledge unavailable from textbooks. Graded Pass/No Pass. Register by Instructor. This course is repeatable for credit.

CS 480-489 - Independent Study in Computer Science
3.00 credits. Independent study and research on a problem or topic in the field of computer science. **Prerequisite(s):* Approval of the Independent Study Committee. Register by Instructor. This course is repeatable for credit.

CS 490 - Projects in Computing
Variable (2.00 to 4.00) credits. A directed project or study requiring faculty acceptance of a proposal with a final report and defense of work. **Prerequisite(s):* Senior status, or permission of the instructor. Register by Instructor.

CS 495 - Honors Projects in Computing
Variable (2.00 to 4.00) credits. The course consists of the development of an intensive individual project that must involve computing topics not covered in regular course offerings. The project should be approved and guided by a faculty member. Students must prepare a written report describing original exposition, research, and/or computing applications. Oral presentation of the results is also required. Restrictive acceptance for taking this course applies. Completion of this course does not assure recognition for Honors in the Discipline. Graded Pass/No Pass. Register by Instructor

Department of Education

Finley-Bowman (Chair), Bellew, Blouch, Coyle, DeArment, Haley-Mize, Myers, Pitcher, Toro, Tyminski

For more information, please visit the Department's website or check your course syllabi, which are available through the course instructor or at the High Library.

Elizabethtown College, through its Department of Education, offers several programs leading to a bachelor's degree and Pennsylvania teaching certification. Students in the incoming class of fall 2013 may choose to enroll in either one of the former Special Education certifications (4-year) or the new master's degree program in Special Education (5-year). Candidates who already possess a bachelor's degree and teacher certification (PreK-4, 4-8, K-12, or 7-12) from an accredited institution who are interested in the master's program should contact the Education Department for admission and entrance criteria information. Together, the Department and College act as an agent of the Commonwealth of Pennsylvania in the teacher certification process for students who meet all appropriate standards.

Mission

The mission of the Education Department at Elizabethtown College is to provide its students with the knowledge and skills necessary to become thoughtful and responsible teachers who, informed by scholarship and research, are prepared to meet the social, intellectual, and professional challenges of today's culturally diverse and inclusive pre-K to 12 classrooms. We believe that our purpose is best achieved through adherence to the Pennsylvania Department of Education standards for teacher certification, and through modeling research-based practices of effective instruction and assessment within a relationship-centered climate that supports academic excellence.

Our goal is to prepare highly competent, knowledgeable educators in early childhood, elementary middle, secondary, special, art, music, and Spanish education. Essential components of this preparation are early and frequent field experiences in urban, rural, and suburban settings supervised by certified professionals, and ongoing self-evaluation of knowledge and skill growth through development of a professional portfolio. The capstone assessment is a semester-long student teaching placement that promotes the practical application of theories and best practices learned in program coursework.

Integral to our programs is the department's signature attribute of social justice, exhibited through a curricular focus upon advocacy for equity, civic engagement, global citizenship, and international/comparative perspectives. Education faculty are experts in theses fields, conducting, presenting, and publishing their own research, and facilitating opportunities for undergraduate scholarship.

Majors Offered

The Department of Education offers majors programs that lead to a Bachelor of Science degree and Pennsylvania certification in **Early Childhood Education** (Pre-kindergarten through fourth grade) and **Elementary/Middle Level Education** (fourth through eighth grade), and **Secondary Education** programs in **Social Studies** and **General Science**. The programs in Early Childhood Education, Elementary/Middle Level Education, and Secondary Education combine a strong commitment to the liberal arts and sciences for the development of pedagogical content knowledge, professional standards, as expressed through Danielson's Domains of Professional Practice, cognitive development of the early childhood, early adolescent, and adolescent learner, and best practices in assessment.

Supported by the College's Core Program and elective course work, these major programs promote the collaboration and capacity of the educator, student, curriculum, and community, and emphasize the importance of supervised field

experiences beginning in the freshmen year to support the interrelationship of theory and reflective teaching practice.

Additional programs in **Secondary Education** are available in select academic areas, including **Biology**, **Chemistry**, **English**, **Mathematics**, and **Physics**.

Majors and Pennsylvania certification for kindergarten through 12th grade also are available in **Music**, Fine Arts – **Art**, and Modern Language – **Spanish**. Carefully designed work in the content major, the Core program, and electives qualify students for a degree appropriate to that major and for Pennsylvania certification.

Master of Education

The Department of Education also offers a 4 +1 graduate program leading to a master's degree in education and dual certification in a general content area (Pre-4, 4-8, 7-12, and K-12) and special education (PreK-8 or 7-12).

Candidates in the master's program will have successfully completed the requirements for a baccalaureate degree and certification in a general content area and a fifth year of graduate academic study in special education.

This degree path affords students the advantages of two complete student teaching semesters (one in general education and one in special), an advanced degree in a competitive professional market, and diversified and individualized study with an emphasis upon applied research for either PreK-8 or 7-12 certification in special education.

General Requirements

Admission to the Programs

Students must submit an electronic application to the Education Department for provisional acceptance into a certification program after they:

Complete 27 hours with a cumulative grade point average of 2.80 or higher. Complete ED 105 and ED 150/ED 151 and earned grades of C or better.

Submit a TB medical clearance less than one year old.

Provide a record of Act 34, PA Child Abuse, and FBI Criminal History Report. These clearances must be less than one year old.

Provide an electronic Digication portfolio for review demonstrating interest and/or experience in professional education and progress toward meeting required competencies.

Approval of the Education Department and any other appropriate major Department is necessary for the application to be successful. Students are evaluated at the conclusion of each semester in accordance with the *Department of Education Teacher Dispositions/Foundational Competencies Policy*. Students may be advised or required to withdraw from a departmental program at any time the Education Department determines such action to be appropriate. Students are required to have a provisional acceptance prior to enrolling in any 200-level education courses.

Progress in the Programs

Students must submit an electronic application to the Education Department for formal acceptance into a certification program after they:

Must complete two Mathematics courses (above the 011 level and with MA prefixes) and two English courses (one writing composition and one literature).

Complete 54 hours with a cumulative grade point average of 3.00 or higher.

Successfully complete at least three courses with ED prefixes.

Provide a record of ACT 34, PA Child Abuse, and FBI Criminal History Report. These clearances must be less than one year old.

Submit a TB test that is less than one year old.

Receive passing scores on the Pre-service Academic Performance Assessment (PAPA) in Reading, Writing, and Mathematics.

Formally present an electronic Digication portfolio demonstrating continuing interest, experience, and growth in professional education and progress toward meeting required Department competencies.

Approval of the Education Department and any other appropriate major Department is necessary for the application to be successful. Students are evaluated at the conclusion of each semester in accordance with the *Department of Education Teacher Dispositions/Foundational Competencies Policy*. Students may be advised or required to withdraw at any time the Department determines such action to be appropriate. Students are required to have formal acceptance in order to take 300-level education courses.

Exit from the Programs

Students seeking **award of the degree in the major only (without certification)** must:

Receive approval of the Education Department and any other appropriate Department(s) for completion of their degree plan.

Satisfy all requirements of the major, except the professional internship and Pennsylvania certification test results, with a cumulative/major grade point average of 2.00 or higher.

Complete an alternative internship experience of at least six credits, as approved by the Education Department.

Students seeking **award of the degree in their major and certification** must:

Satisfy all requirements of the major with the cumulative grade point average of 3.00 or higher.

Earn a grade of Pass in the professional internship and senior seminar.

Earn passing scores on the Pennsylvania Educator Certification Tests (PECT) and/or Praxis II series as it applies to your certification program. Students completing Early Childhood (PK-4) and Special Education (PK-8) certifications take the PECT exam series, Elementary Middle Level (4-8) certifications take the Praxis series in core assessment and subject concentration, Secondary certification (7-12) take Praxis II in a

content area and K-12 (Music Education, Fine Arts – Art Education, Modern Languages – Spanish Education) must successfully complete the appropriate Fundamental Subjects: Content Knowledge Test and Praxis II in a content area.

For a comprehensive listing of testing requirements in Pennsylvania, please see www.portal.state.pa.us/portal/server.pt/community/testing_requirements/8638.

Arrange for PAPA, PECT, and/or Praxis test score label(s) to be sent to the Education Department showing passing scores on all required tests.

Complete two Mathematics (MA) courses and two English (EN) courses, one English Literature and one English Writing. Note: MA 011 does not count toward fulfillment of the Mathematics requirement.

Formally and publicly present an electronic portfolio summarizing activities and experiences in professional education and demonstrating satisfaction of all required competencies.

Receive approval of the Education Department and appropriate major Department(s).

Submit the application for Pennsylvania certification to the Education Department.

The Professional Internship

Throughout its programs, the Department stresses the importance of supervised field experiences, which complement on-campus course work in education. The full-time professional internship, student teaching, is the capstone experience of the various teacher education programs. During this activity, there is a developmental process at work that is designed to lead to the professional and personal growth required to enter the profession. The program faculty believes the success of this experience is enhanced when students have the opportunity to work under the supervision and mentoring of experienced College faculty familiar with their previous and ongoing development.

Student teachers are placed in cooperating school districts in the local area and supervision is conducted by College faculty and supervisors. Requests for exceptions to this policy regarding local placement must be presented formally to the clinical faculty and staff of the Department. To receive such an exception, students must convincingly demonstrate that an alternative placement would be decidedly more beneficial to their professional and personal development than completing the experience at a local site. Convenience or increased visibility for job searching is not considered important enough to earn an exception to Department's policy regarding local placement.

Note: No courses may be taken concurrently with ED 470 (Professional Internship), and ED 495, ED 496, or ED 497 (Senior Seminars) without the written permission of the Education Department.

Honors in the Discipline

The Education Department participates in the College Honors in the Discipline program. Education majors are allowed to overload up to 20 credits in one semester, without paying an overload fee, only in the case that they decide to pursue an Honors in the Discipline project taken for credit.

For more information, please contact the Education Department Chair.

Compliance

Elizabethtown College is in compliance with Title II of the Higher Education Act and disclosure reporting. Requests for disclosure information – i.e., teacher preparation programs, successes on passing state licensing and certification examinations, and job placement – may be obtained by contacting the Education Department.

Master of Education (M.Ed.)

Student Learning Outcomes for Special Education:

Students will be able to:

- Plan, design, and implement research-based instructional and assessment practices in special education.
- Develop and apply instructional methodologies, including the use of technology, appropriate for a special education classroom.
- Critically apply, adapt, and differentiate content knowledge and skills to facilitate inclusive student learning.
- Create, organize, and maintain an effective and safe classroom environment for all learners.
- Design and implement successful interventions responsive to the needs of all students.
- Exhibit the qualities that characterize a professional individual, including professional, ethical, and legal responsibilities of a certified teacher in special education.
- Demonstrate an ongoing commitment to continued professional development and service to the discipline.

Requirements of Acceptance:

- Complete requirements in general education certification (see applicable undergraduate checksheets).
- Meet requirements for and attain Formal Acceptance into the undergraduate program (see the EDUCATION MANUAL).
- Receive a B or above in SED 212/MSE 512 (Learning Environment and Social Interaction in Inclusive Settings) and SED 222/MSE 522 (Foundations of Inclusive Education).
- Pass MA 251 (Probability and Statistics).
- Maintain a 3.3 cumulative GPA or above.
- Pass the Pre-Service Academic Performance Assessment (PAPA) examinations.
- Receive satisfactory ratings on the Teacher Dispositions document.
- Provide two letters of recommendation in support of your academic and professional abilities for success in the program.
- Submit a writing sample which demonstrates higher-order thinking, writing, and communication skills.

Application Deadlines:

Fall applications will be due by September 15 (notification of acceptance will be November 15); Spring applications by March 15 (notification of acceptance will be May 1).

Course requirements:

- MSE 512 - Learning Environment and Social Interaction in Inclusive Settings (SED 512)
- MSE 522 - Foundations of Inclusive Education (SED 222)
- MSE 524 - Methods of Teaching Students with High Incidence Disabilities (SED 224)
- MSE 530 - Methods of Teaching Students with Low Incidence Disabilities
- MSE 533 - Assessment in Special and Inclusive Education
- MSE 540 - Etiology, Equity, and Law
- MSE 542 - Effective Instruction for Students with PDD and/or ED
- MSE 544 - Intensive Reading, Writing, and Mathematics Intervention
- MSE 565 - Issues in Special Education
- MSE 570 - Graduate Student Teaching
- MSE 590 - Graduate Research Seminar

Early Childhood Education (B.S.)

Student Learning Outcomes for Early Childhood Education:

Students will be able to:

- Plan, design, and implement research-based instructional and assessment practices appropriate for children between preschool and fourth grade.
- Develop and apply instructional methodologies, including the use of technology, appropriate for children between preschool and fourth grade.
- Critically apply content knowledge and skills to facilitate student learning appropriate for children between 0 and 9 years.
- Create, organize, and maintain an effective and safe classroom environment conducive to learning and development.
- Design and implement successful interventions responsive to the needs of learners in PreK through grade four.
- Exhibit the qualities that characterize a professional individual, including professional, ethical, and legal responsibilities of a certified teacher.
- Demonstrate an ongoing commitment to continued professional development and service.

Candidates for certification in **Early Childhood Education** must complete a major that consists of two key elements. The first element emphasizes critical concepts and ideas important to one's general education and academic preparation for teaching. The second emphasis stresses a professional core organized in five areas: 1) Early Childhood Development, Cognition and Learning, 2) Subject Matter Pedagogy Content (Pre-kindergarten

through Fourth), 3) Assessment, 4) Family and Community Partnerships, and 5) Professionalism. Content requirements are based on national standards for early childhood education as well as Pennsylvania's curriculum standards. Candidates will have 190 hours of field experiences prior to beginning student teaching. Until May 1, 2014, candidates have the option of declaring a concentration in **Special Education** that leads to special education certification Pre-kindergarten through eighth grade. Candidates who choose this option will receive dual teaching certifications in both **Early Childhood** and **Special Education** in four years.

Early Childhood:

- ED 105 - Foundations of Teaching and Learning
- ED 150 - Early Childhood Development
- ED 161 - Integrated Technology I
- ED 250 - Language and Literacy Development in Early Childhood
- ED 258 - Educational Assessment and Evaluation
- ED 314 - PreK-4 Family, School, and Community Partnerships
- ED 325 - Methods for Teaching Science and Health in Early Childhood
- ED 335 - Methods for Teaching Mathematics in Early Childhood
- ED 341 - ELL: Linguistic and Cultural Diversity in the Classroom
- ED 345 - Methods for Teaching Reading and Writing in Early Childhood
- ED 351 - Literacy Assessment and Intervention in Early Childhood
- ED 360 - Integrated Strategies for Creative Expression in Early Childhood
- ED 365 - Methods for Teaching Social Studies in Early Childhood
- ED 470 - Professional Internship
- ED 495 - Senior Seminar for Early Childhood
- SED 212 - Learning Environment and Social Interaction in Inclusive Settings (MSE 512)
- SED 222 - Foundations of Inclusive Education (MSE 522)

Additional Required Courses for Education Certification

- Math Core course
- MA 205 - Mathematics for the Early Childhood Teacher or other eligible Math course
- Two English courses for Education certification, one literature and one writing (EN 100 or EN 150)

Elementary/Middle Level Education (B.S.)

Student Learning Outcomes for Elementary/Middle Level Education:

Students will be able to:

- Plan, design, and implement research-based instructional and assessment practices appropriate for children between fourth and eighth grade.
- Develop and apply instructional methodologies, including the use of technology, appropriate for children between fourth and eighth grade.
- Critically apply content knowledge and skills to facilitate student learning appropriate for students between fourth and eighth grade.

- Create, organize, and maintain an effective and safe classroom environment conducive to the learning and development of children between fourth and eighth grade.
- Design and implement successful interventions responsive to the needs of students between fourth and eighth grade.
- Exhibit the qualities that characterize a professional individual, including professional, ethical, and legal responsibilities of a certified teacher.
- Demonstrate an ongoing commitment to continued professional development and service.

Candidates for certification in **Elementary/Middle Level Education** must select an emphasis in one of four academic content areas and be a generalist in each of the other three academic content areas. The academic emphasis requires completion of a minimum of 30 credit hours in one of the following four content areas: 1) Mathematics, 2) Science, 3) English/Language Arts and Reading, or 4) Social Studies.

In addition to the one academic emphasis, candidates also are expected to generalize in the remaining three content areas by completing 12 credit hours in each. Students also complete a professional core organized into five areas: 1) Early Adolescent and Adolescent Development, Cognition and Learning; 2) Subject Matter Pedagogy Content (Grades Four through Eight); 3) Assessment; 4) Family and Community Partnerships; and 5) Professionalism. Content requirements are based on national standards for Elementary/Middle Level Education as well as Pennsylvania's curriculum standards. Candidates will have 190 hours of field experiences prior to student teaching.

Candidates who select the Elementary/Middle Level Education with an emphasis in English/Language Arts and Reading have the option of completing a concentration in **Special Education**. Until May 1, 2014, candidates have the option of declaring a concentration in **Special Education** that leads to special education certification Pre-kindergarten through eighth grade. Candidates who choose this option will receive dual teaching certifications in both **Elementary / Middle Level Education** and **Special Education** in four years.This concentration leads to certification in special education for Cognitive, Behavior, Physical/Health Disabilities, Pre-kindergarten through eighth grade. Candidates who choose this option will receive dual teaching certifications in both Elementary/Middle Level Education and Special Education.

Elementary/Middle Level Education – Language Arts/Reading/English emphasis consists of:

Professional Education Courses (42 credits):

- ED 105 - Foundations of Teaching and Learning
- ED 151 - Early Adolescent/Adolescent Development
- ED 161 - Integrated Technology I
- ED 258 - Educational Assessment and Evaluation
- ED 341 - ELL: Linguistic and Cultural Diversity in the Classroom
- ED 470 - Professional Internship
- ED 496 - Senior Seminar for Elementary/ Middle Level
- SED 212 - Learning Environment and Social Interaction in Inclusive Settings (MSE 512)
- SED 222 - Foundations of Inclusive Education (MSE 522)

Reading/English Content Courses (32 credits):

- ED 316 - Literacy Assessment and Intervention in Elem/Middle Level

- ED 346 - Methods for Teaching Reading and Writing in Elementary/Middle Level
- Five Department-approved English electives

- EN 100 - PLE Writing and Language or
- EN 150 - PLE Advanced Writing and Language

Required Mathematics Sequence (12 credits):

- MA 206 - Mathematics for the Middle Level Elementary Teacher or
- MA 251 - MA Probability and Statistics

- ED 336 - Methods for Teaching Mathematics in Elementary/Middle Level
- One Department-approved Mathematics elective

Required Science Sequence (12 credits):

- ED 326 - Methods for Teaching Science and Health in Elementary/Middle Level
- Two Department-approved Science electives

Required Social Studies Sequence (12 credits):

- ED 224 - Pennsylvania History and Government for Social Studies Educators or
- ED 226 - World Geography for Social Studies Educators

- ED 366 - Methods for Teaching Social Studies in Elementary/Middle Level
- One Department-approved Social Studies elective

Elementary/Middle Level Education – Mathematics emphasis consists of:

Professional Education Courses (46 credits):

- ED 105 - Foundations of Teaching and Learning
- ED 151 - Early Adolescent/Adolescent Development
- ED 161 - Integrated Technology I
- ED 258 - Educational Assessment and Evaluation
- ED 316 - Literacy Assessment and Intervention in Elem/Middle Level
- ED 341 - ELL: Linguistic and Cultural Diversity in the Classroom
- ED 470 - Professional Internship
- ED 496 - Senior Seminar for Elementary/ Middle Level
- SED 212 - Learning Environment and Social Interaction in Inclusive Settings (MSE 512)
- SED 222 - Foundations of Inclusive Education (MSE 522)

Required Mathematics Sequence (32 credits):

- ED 336 - Methods for Teaching Mathematics in Elementary/Middle Level
- One Department-approved introductory Mathematics elective
- MA 121 - MA Calculus I

- MA 122 - Calculus II
- MA 251 - MA Probability and Statistics
- Three Department-approved advanced Mathematics electives

Required Reading/English Sequence (12 credits):

- ED 346 - Methods for Teaching Reading and Writing in Elementary/Middle Level
- One English writing course (EN 100 or EN 150)
- One Department-approved English literature course

Required Science Content Courses (12 credits):

- ED 326 - Methods for Teaching Science and Health in Elementary/Middle Level
- Two Department-approved Science electives

Required Social Studies Sequence (12 credits):

- ED 366 - Methods for Teaching Social Studies in Elementary/Middle Level
- Two Department-approved Social Studies electives

Elementary/Middle Level Education – Science emphasis consists of:

Professional Education Courses (46 credits):

- ED 105 - Foundations of Teaching and Learning
- ED 151 - Early Adolescent/Adolescent Development
- ED 161 - Integrated Technology I
- ED 258 - Educational Assessment and Evaluation
- ED 316 - Literacy Assessment and Intervention in Elem/Middle Level
- ED 341 - ELL: Linguistic and Cultural Diversity in the Classroom
- ED 470 - Professional Internship
- ED 496 - Senior Seminar for Elementary/ Middle Level
- SED 212 - Learning Environment and Social Interaction in Inclusive Settings (MSE 512)
- SED 222 - Foundations of Inclusive Education (MSE 522)

Required Science Content Courses (32 credits):

- ED 326 - Methods for Teaching Science and Health in Elementary/Middle Level

- ES 113 - NPS Earth in Space: Evolution of a Planet or
- ES 114 - NPS Geosystems: Landscapes, Oceans and Atmosphere

- BIO 111 - Molecules, Cells, and Animal Systems
- BIO 112 - Principles of Evolution, Ecology, and Diversity of Life

- CH 101 - NPS General Chemistry: Practical Principles or
- CH 105 - NPS Fundamentals of Chemistry: Introduction to Molecular Science or

- CH 109 - NPS Introduction to Forensic Science

- PHY 103 - General Physics I or
- PHY 105 - NPS How Things Work

- Eight credits of 200- or 300-level Biology electives

Required Mathematics Sequence (12 credits):

- MA 206 - Mathematics for the Middle Level Elementary Teacher or
- MA 251 - MA Probability and Statistics

- ED 336 - Methods for Teaching Mathematics in Elementary/Middle Level
- One Department-approved Mathematics elective

Required Reading/English Sequence (12 credits):

- ED 346 - Methods for Teaching Reading and Writing in Elementary/Middle Level
- One English writing course (EN 100 or EN 150)
- One Department-approved English literature course

Required Social Studies Sequence (12 credits):

- ED 226 - World Geography for Social Studies Educators
- ED 366 - Methods for Teaching Social Studies in Elementary/Middle Level
- One Department-approved Social Studies elective

Elementary/Middle Level Education – Social Studies emphasis consists of:

Professional Education Courses (46 credits):

- ED 105 - Foundations of Teaching and Learning
- ED 151 - Early Adolescent/Adolescent Development
- ED 161 - Integrated Technology I
- ED 258 - Educational Assessment and Evaluation
- ED 316 - Literacy Assessment and Intervention in Elem/Middle Level
- ED 341 - ELL: Linguistic and Cultural Diversity in the Classroom
- ED 470 - Professional Internship
- ED 496 - Senior Seminar for Elementary/ Middle Level
- SED 212 - Learning Environment and Social Interaction in Inclusive Settings (MSE 512)
- SED 222 - Foundations of Inclusive Education (MSE 522)

Required Social Studies Sequence (32 credits):

- ED 224 - Pennsylvania History and Government for Social Studies Educators
- ED 226 - World Geography for Social Studies Educators
- ED 366 - Methods for Teaching Social Studies in Elementary/Middle Level

- EC 101 - Principles of Macroeconomics
- HI 101 - HUM United States History to 1877
- HI 102 - HUM United States History Since 1877

- HI 114 - WCH Western Civilization I or
- HI 115 - WCH Western Civilization II

- One Department-approved Social Studies elective

Required Mathematics Sequence (12 credits):

- ED 336 - Methods for Teaching Mathematics in Elementary/Middle Level

- MA 206 - Mathematics for the Middle Level Elementary Teacher or
- MA 251 - MA Probability and Statistics

- One Department-approved Mathematics elective

Required Reading/English Sequence (12 credits):

- ED 346 - Methods for Teaching Reading and Writing in Elementary/Middle Level
- One English writing course (EN 100 or EN 150)
- One Department-approved English literature course

Required Science Content Courses (12 credits):

- ED 326 - Methods for Teaching Science and Health in Elementary/Middle Level
- Two Department-approved Science electives

Education Courses

ED 105 - Foundations of Teaching and Learning
4.00 credits. This course is designed to introduce students to the philosophical, sociological, political and historical foundations of education and learning. The course emphasizes on the concepts, theories, and research on learning and the factors, including teaching, that influence learning. Includes 20 hours (i.e., 2 hours per week for 10 weeks) of field experience with a rotation of placements in early childhood, middle, and secondary levels, which will require FBI Clearance, Criminal Record Clearance, and Pennsylvania Child Abuse Clearance (fees). **Corequisite(s):* ED 105L. A grade of C or better must be earned to continue in the program. Majors only.

ED 150 - Early Childhood Development
4.00 credits. This course is designed to introduce students to the foundations of early childhood development. The course examines the concepts, theories, and research on child development. The course focuses on the typical and atypical physical, cognitive, social, emotional, and moral development of children between 0 and 9 years. Students will be introduced to different models and approaches in early childhood and developmentally appropriate practices. The course includes 20 hours of field experience (i.e., 2 hours per week for 10 weeks), which will require FBI Clearance, Criminal Record Clearance, and Pennsylvania Child Abuse Clearance (fees). **Prerequisite(s):* ED 105. **Corequisite(s):* ED 150L. A grade of C or better must be earned to continue in the program. Majors only.

ED 151 - Early Adolescent/Adolescent Development
4.00 credits. This course examines the concepts, theories, and research on early adolescent and adolescent development. It focuses on typical and atypical physical, cognitive, social, emotional, and moral development of children ages 8-18. Students will be introduced to different models, approaches, and developmentally appropriate practices for students in grades 4-12. Includes 20 hours of field experience (i.e., 2 hours per week for 10 weeks) which will require FBI Clearance, Criminal Record Clearance, and Pennsylvania child Abuse Clearance (fees). **Prerequisite(s):* ED 105. **Corequisite(s):* ED 151L. A grade of C or better must be earned to continue in the program. Majors only.

ED 161 - Integrated Technology I
2.00 credits. An introductory study of current and emerging instructional media and technologies used across the grades and curricula. Organizing time and records through technology and computer-mediated communications, including basic multimedia presentation tools, are presented. Classroom-related features of Word and PowerPoint are practiced at an introductory level. Majors only.

ED 162 - Integrated Technology II
2.00 credits. A study of current and emerging instructional media and technologies used across the grades and curricula. Computer-mediated communications - including advanced multimedia presentation tools such as embedded video - are developed. Advanced classroom-related PowerPoint and webpage development techniques are practiced. Emphasis will be placed on use of SmartBoards, integration of K-12 student use of computers during instruction, use of handhelds, WebQuests and videostreaming. **Prerequisite(s):* Permission from the Department based on demonstration of basic technology skills in Word and PowerPoint. Majors only.

ED 224 - Pennsylvania History and Government for Social Studies Educators
4.00 credits. This course surveys political, economic, social and cultural developments in the Commonwealth from Penn's Charter until the present day, with special consideration of the key topics covered under the PDE standards for the Early Adolescent and Adolescent educators. Agriculture, technology, ethnicity and immigration, urbanization, civics, government and democratization are central themes. This course examines major historical themes and, where applicable, introduces key historiographical concepts and debates. **Prerequisite(s):* ED 105 or ED 106 , and ED 150 or ED 151. Provisional or formal acceptance into Education Program required. Fall semester.

ED 226 - World Geography for Social Studies Educators
4.00 credits. This course surveys the major tools, techniques and methodological approaches associated with the disciplines of physical and cultural geography, with emphasis upon the current academic debates, western case studies, non-western case studies, cartography, human-environmental interaction, and "thinking geographically." Key topics covered under the PDE, NCSS and NCGE standards for Early Adolescent and Adolescent educators also will be considered. **Prerequisite(s):* ED 105 or ED 106 , and ED 150 or ED 151. Provisional or formal acceptance into Education Program required. Spring semester.

ED 242 - The Use of Sign Language with People with Multi-Disabilities
2.00 credits. A practical sign language course for persons interested in special education. Information covered includes: 1) sign language and other alternative communication systems, 2) adaptive signing techniques, 3) developmental processes involved with signing, 4) how to choose a sign/sign system, and 5) basic core vocabulary for use with people with developmental disabilities in their environments (i.e., sheltered workshops, special school settings, group homes, etc.). **Prerequisite(s):* ED 105 or ED 106 , and ED 150 or ED 151. Provisional or formal acceptance into Education Program required. Spring semester.

ED 250 - Language and Literacy Development in Early Childhood

4.00 credits. This course focuses on the research-based principles and practices for language and literacy development of children ages birth to 9. Topics include language acquisition, reading and writing development, and strategies for teaching comprehension, fluency, word study and vocabulary in the early grades (PreK through fourth). Requires field experience. **Prerequisite(s):* ED 105, and ED 150 or ED 151. **Corequisite(s):* ED 250L. Provisional or formal acceptance into Education Program required.

ED 258 - Educational Assessment and Evaluation
4.00 credits. Examines current issues, trends and practices in educational assessment. Emphasizes the study of different assessment and evaluation procedures in the early childhood, elementary and secondary classroom. Explores a variety of traditional and innovative approaches to assessment of student learning and development. Provisional or formal acceptance into Education Program required.

ED 305 - Methods of Secondary Education
6.00 credits. A study of the instructional methodology of an academic discipline with emphasis upon literacy strategies, reading in the content, and assessment. Students complete a field experience component which explores these practices under the guidance of a clinical professor in the academic major (e.g., science, English, mathematics, social studies) for grades 7-12. **Prerequisite(s):* ED 150 or ED 151. Formal acceptance into Education Program required.

ED 306 - Methods of Modern Language Education K-12
6.00 credits. A study of the instructional methodology of an academic discipline with emphasis upon literacy strategies, reading in the content, and assessment. Students complete a field experience component which explores these practices under the guidance of a clinical professor in the academic major (e.g. Spanish) in the K-12 continuum. **Prerequisite(s):* ED 150 or ED 151. Formal acceptance into Education Program required. Fall semester.

ED 314 - PreK-4 Family, School, and Community Partnerships
4.00 credits. A study of family and community risk and protective factors influencing the development of PreK-4 students and best practices and models for establishing family, school and community partnerships. Twenty hours of field experience required (i.e., 2 hours per week for 10 weeks). **Prerequisite(s):* ED 150 or ED 151. Formal acceptance into Education Program required.

ED 316 - Literacy Assessment and Intervention in Elem/Middle Level
4.00 credits. This course explores research-based approaches to teaching language arts for intermediate level students. Topics include extending meaning and recognition of vocabulary, critical reading and writing, formal and informal assessments, organizational patterns for group and/or individual instruction, and middle-grade reading experience and materials. Twenty hours of field experience required (i.e., 2 hours per week for 10 weeks). **Prerequisite(s):* ED 258. Formal acceptance into Education Program required. Fall semester.

ED 325 - Methods for Teaching Science and Health in Early Childhood
4.00 credits. A study of science processes in an early childhood school program and the utilization of multiple resources, organization, management, evaluation, instructional strategies, and integration of science and health in the early childhood program. Field experience is required. **Prerequisite(s):* ED 250 and ED 258. **Corequisite(s):* ED 335, ED 345 and ED 365. Formal acceptance into Education Program required. Fall semester.

ED 326 - Methods for Teaching Science and Health in Elementary/Middle Level
4.00 credits. This course provides for the study of science processes at the middle school level (fourth through eighth grades), with emphasis upon the utilization of multiple resources, organization, classroom management, instructional strategies and assessment. Field experience is required. **Corequisite(s):* ED 336, ED 346, and ED 366. Formal acceptance into Education Program required. Spring semester.

ED 335 - Methods for Teaching Mathematics in Early Childhood
4.00 credits. A study of how children develop a background of understanding and skill in mathematics in Pre-K to fourth grade, concentrating on the development of problem-solving, reasoning, and communication skills in mathematics, and connecting mathematics and the real world. Additional focus will be on organization for instruction, alternative means of evaluation, and teaching special needs and at-risk students. Field experience is required. **Prerequisite(s):* ED 250 and ED 258. **Corequisite(s):* ED 325, ED 345 and ED 365. Formal acceptance into Education Program required. Fall semester.

ED 336 - Methods for Teaching Mathematics in Elementary/Middle Level
4.00 credits. A study of how children develop a background of understanding and skill in mathematics in fourth through eighth grades with emphasis on problem-solving, reasoning and communication skills. Additional focus will be on organization for instruction, teaching methods, accommodations and alternative strategies. **Corequisite(s):* ED 326, ED 346 and ED 366. Formal acceptance into Education Program required. Spring semester.

ED 341 - ELL: Linguistic and Cultural Diversity in the Classroom
4.00 credits. This course introduces future teachers to the special linguistic and cultural educational needs of English language learners (ELL). Aspects of cross-linguistic and cross-cultural knowledge will be studied as well as methods of instruction that focus on the language needs and background knowledge of the ELL. Theory and practices of current ELL programs will also be examined. Twenty hours of field experience required (i.e., 2 hours per week for 10 weeks). **Prerequisite(s):* ED 105, and ED 150 or ED 151. **Corequisite(s):* ED 341L. Formal acceptance into Education Program required.

ED 345 - Methods for Teaching Reading and Writing in Early Childhood
4.00 credits. This course furthers the study of literacy theories and research-based practices presented in ED 250. This course explores approaches to teaching reading and writing in the primary grades and examines the construction of rich literacy environment in culturally, linguistically, and socio-economically diverse classrooms. Course content focuses on instructional strategies, curriculum design and implementation, and assessment and evaluation. Field experience is required for Methods Block. (Field experience: Students in assigned school classroom all day Friday for 10 weeks and all day every school day for the last two weeks of the semester for a total of 150 hours.) **Prerequisite(s):* ED 250 and ED 258. **Corequisite(s):* ED 325, ED 335 and ED 365. Formal acceptance into Education Program required. Fall semester.

ED 346 - Methods for Teaching Reading and Writing in Elementary/Middle Level
4.00 credits. This course furthers the study of literacy theories and research-based practices presented in ED 352 Literacy Assessment, Instruction and Intervention in Elem/Middle Level. This course explores approaches to teaching reading and writing in the elementary/middle grades and examines the construction of a rich literacy environment in culturally, linguistically, and socio-economically diverse classrooms. Course content focuses on instructional strategies, curriculum design and implementation, and assessment and evaluation. (Field experience: Students in assigned school classroom all day Friday for 10 weeks and all day every school day for the last two weeks of the semester for a total of 150 hours.) **Prerequisite(s):* ED 258. **Corequisite(s):* ED 326, ED 336 and ED 366. Formal acceptance into Education Program required.

ED 351 - Literacy Assessment and Intervention in Early Childhood
4.00 credits. This course provides an advanced study of literacy instruction with an emphasis on classroom-based assessments and instructional planning for intervention. This course examines the use of screening, diagnostic and formative literacy assessments in the classroom as well as standardized tests (including PSSA). Class assignments focus on current research to develop curriculum that supports ongoing evaluation of students' reading and writing progress and planning appropriate accommodations within a rich literacy environment. Twenty hours of field

experience required (i.e., 2 hours per week for 10 weeks). **Prerequisite(s):* ED 345. Formal acceptance into Education Program required. Spring semester.

ED 360 - Integrated Strategies for Creative Expression in Early Childhood
4.00 credits. This course is designed to familiarize students with the creative, self-expression and problem-solving skills among children in early childhood settings. Students will explore creative learning theories and research and focus on developmentally appropriate curriculum strategies in all developmental domains. This course emphasizes strategies to develop, implement and evaluate activities in the environment that encourages and supports creative self-expression and problem solving in children. **Prerequisite(s):* ED 250. Formal acceptance into Education Program required. Spring semester.

ED 365 - Methods for Teaching Social Studies in Early Childhood
4.00 credits. A study of content, teaching strategies, materials, organizing approaches and curricula for teaching social studies at the early elementary level (PreK through fourth grade). Students will be required to complete a field experience component, documented by a journal. **Prerequisite(s):* ED 250 and ED 258. **Corequisite(s):* ED 325, ED 335 and ED 345. Formal acceptance into Education Program required. Fall semester.

ED 366 - Methods for Teaching Social Studies in Elementary/Middle Level
4.00 credits. This course will examine the content, teaching strategies, materials, organizing approaches and curricula for teaching social studies at the middle school level (fourth through eighth grades). Students will be required to complete a field experience component, documented by a journal. **Corequisite(s):* ED 326, ED 336 and ED 346. Formal acceptance into Education Program required. Spring semester.

ED 370-378 - Special Topics in Education
Variable credit. Topics chosen in response to student and faculty interests. Formal acceptance into Education Program required. This course is repeatable for credit.

ED 399 - Thesis Preparation
2.00 credits. This course focuses on the various stages of the research process and writing Chapters 1, 2 and 3 of the thesis. Students identify a research question for investigation, establish the validity of pursuing the topic of research, complete a literature review associated with their research topic, and evaluate quantitative and qualitative methods utilized when conducting studies. This course provides foundational knowledge and competencies for students who wish to complete Honors in Education during the senior year. Formal acceptance into the Education Program is required. Register by Instructor. Spring semester.

ED 400 - Senior Project in Education
2.00 credits. Students participating in the Department's Honors in the Discipline Program may register for this course during semesters in which research or writing for their project is being completed. Recognition for Honors in the Discipline is not assured by completion of this course. See Department Chair for additional information. **Prerequisite(s):* Invitation to Honors in the Discipline Program. Register by Instructor. This course is repeatable for credit.

ED 470 - Professional Internship
12.00 credits. Supervised student teaching for a full semester at the level of certification (Early Childhood, Elementary/Middle, dual certification in Special Education, or Secondary Education). **Prerequisite(s):* Completion of all program requirements with Education prefixes and cumulative grade point average required at the time of full admission to the program **Corequisite(s):* ED 495, ED 496 or ED 497. Register by Instructor. Graded Pass/No Pass. Course fees.

ED 480-489 - Independent Study in Education

Variable credit. Upon the initiative of the student, a program of study may be organized with a faculty member on a topic of mutual interest. **Prerequisite(s):* Approval of the Department Chair and the Independent Study Committee. Register by Instructor.

ED 495 - Senior Seminar for Early Childhood
4.00 credits. A study of professional and ethical practices, family and community relationships, and special education issues in early childhood. (PreK-4th grade). Particular emphasis will be given to the laws, procedures, and codes of conduct that guide practice, collaboration with diverse families, advocacy for the rights of children and their families, and support for the transition of children to new educational settings. **Corequisite(s):* ED 470. Register by Instructor.

ED 496 - Senior Seminar for Elementary/ Middle Level
4.00 credits. This course serves as an issues seminar for pre-service teachers, engaging them in active discussion of professional and ethical practices, family and community relationships, and special education issues in middle school settings (fourth through eighth grades). Particular emphasis will be given to the laws, procedures, and codes of conduct that guide practice, collaboration with diverse families, advocacy for the rights of early adolescent and adolescent students and their families, and support for the transition of adolescents to new educational settings. **Corequisite(s):* ED 470. Register by Instructor.

ED 497 - Senior Seminar for Secondary Education
4.00 credits. This course serves as an issues seminar for pre-service teachers, engaging them in active discussion of professional and ethical practices, family and community relationships, (urban, rural and suburban environments), advocacy for student rights, the transition of adolescents to new educational settings and special education issues in secondary school settings. **Corequisite(s):* ED 470. Register by Instructor.

Special Education Courses

SED 212 - Learning Environment and Social Interaction in Inclusive Settings (MSE 512)
4.00 credits. A study of the scientific principles and best practices for creating and sustaining an optimal learning environment and positive social interaction for diverse learners in an inclusive classroom setting. Emphasis is on analyzing factors that influence academic and social behavior, adapting the physical environment, implementing an equitable classroom management system, maintaining a respectful climate, teaching social skills, and implementing positive behavioral supports. **Prerequisite(s):* ED 105, and ED 150 or ED 151. Provisional or formal acceptance into Education Program required.

SED 222 - Foundations of Inclusive Education (MSE 522)
4.00 credits. This course is an introduction to philosophical, historical and legal foundations of Special Education and inclusive education principles and practices. The history, etiology, characteristics and accommodations for students with special needs in the classroom setting will be examined. Thirty hours of field experience required (i.e., 3 hours per week for 10 weeks) which will require FBI Clearance, Criminal Record Clearance, and Pennsylvania Child Abuse Clearance (fees). **Prerequisite(s):* ED 105, and ED 150 or ED 151. **Corequisite(s):* SED 222L. Provisional or formal acceptance into Education Program required.

SED 224 - Methods of Teaching Students with High Incidence Disabilities (MSE 524)
4.00 credits. A study of the specialized instructional strategies to adapt and accommodate classroom environments, testing methodologies, and curricula to meet the needs of exceptional children and youth. Emphasis is on high incidence disabilities, such as learning disabilities, ADD/ADHD, emotional and behavior disorders, communication disorders, and cultural or linguistic diversity. Field experience is required. **Prerequisite(s):* ED 250 and SED 222,

or permission of the Department, **Corequisite(s):* SED 224L, SED 290 and SED 293 Provisional or formal acceptance into Education Program required.

Master of Special Education Courses

MSE 512 - Learning Environment and Social Interaction in Inclusive Settings (SED 512)
4.00 credits. A study of the scientific principles and best practices for creating and sustaining an optimal learning environment and positive social interaction for diverse learners in an inclusive classroom setting. Emphasis is on analyzing factors that influence academic and social behavior, adapting the physical environment, implementing an equitable classroom management system, maintaining a respectful climate, teaching social skills, and implementing positive behavioral supports. **Prerequisite(s):* Provisional or formal acceptance into Education Program required. Register by Instructor.

MSE 522 - Foundations of Inclusive Education (SED 222)
4.00 credits. This course is an introduction to philosophical, historical, and legal foundations of Special Education and inclusive education principles and practices. The history, etiology, characteristics, and accommodations for students with special needs in the classroom setting will be examined. Thirty hours of field experience required (i.e., 3 hours per week for 10 weeks) which will require FBI Clearance, Criminal Record Clearance, and Pennsylvania Child Abuse Clearance (fees). **Prerequisite(s):* Provisional or formal acceptance into Education Program required. **Corequisite(s):* MSE 522L. Register by Instructor.

MSE 524 - Methods of Teaching Students with High Incidence Disabilities (SED 224)
4.00 credits. A study of the specialized instructional strategies to adapt and accommodate classroom environments, testing methodologies, and curricula to meet the needs of exceptional children and youth. Emphasis is on high incidence disabilities, such as learning disabilities, ADD/ADHD, emotional and behavior disorders, communication disorders, and cultural or linguistic diversity. Field experience is required. **Prerequisite(s):* Provisional or formal acceptance into Education Program required. **Corequisite(s):* MSE 524L. Register by Instructor.

MSE 530 - Methods of Teaching Students with Low Incidence Disabilities
4.00 credits. A study of the purpose and uses of various forms of assessment in PK-12 Special and Inclusive Education. Emphasis is on the various purposes of testing data, best practices in assessment, and legal and ethical considerations related to administration, eligibility, instruction, and placement decisions. **Prerequisite(s):* Acceptance into the Graduate Education Program is required. Register by Instructor.

MSE 533 - Assessment in Special and Inclusive Education
4.00 credits. A study of the basic purposes and uses of various forms of assessment in PK-12 Special and Inclusive Education. Emphasis is on various purposes of testing data, best practices in assessment, and legal and ethical considerations related to administration, eligibility, instruction, and placement decisions. **Prerequisite(s):* Acceptance into the Graduate Education Program is required. Register by Instructor.

MSE 540 - Etiology, Equity, and Law
4.00 credits. This course discusses federal and state special education law, including relevant court cases, and its interrelationship with equity and etiology of special needs students. Laws, regulations, policy, and stereotypes relating to the education of special needs populations are discussed. Methods of conflict resolution, mediation, and ethical standards are examined. Students will be required to apply what they learn as they analyze real-life case scenarios. **Prerequisite(s):* Acceptance into the Graduate Education Program is required. Register by Instructor.

MSE 542 - Effective Instruction for Students with PDD and/or ED
4.00 credits. This course is designed to prepare teachers to support the participation and education of students with Pervasive Developmental Disorders (PDD) or Emotional and Behavioral Disorders (EBD) in the PK-12 setting. Emphasis is on the diagnostic criteria, methods of identification, and best practices in intervention and support according to current research. Field experience is required. **Prerequisite(s):* Acceptance into the Graduate Education Program is required. **Corequisite(s):* MSE 544, MSE 565, and MSE 542L. Register by Instructor.

MSE 544 - Intensive Reading, Writing, and Mathematics Intervention
4.00 credits. This course provides substantive, research-based instruction that effectively prepares future teachers to assess and provide interventions to students who are struggling in the reading, writing, and mathematics content areas. An emphasis will be placed on determining differences between typical and problematic performance in each of the areas and modifying instructional methods, providing strategy instruction, and monitoring progress in each area. A clinical field experience is required. **Prerequisite(s):* Acceptance into the Graduate Education Program is required. **Corequisite(s):* MSE 542, MSE 565, and MSE 544L. Register by Instructor.

MSE 565 - Issues in Special Education
4.00 credits. Working with a faculty mentor, this is a self-directed and self-constructed course for those specializing in PK-8 or 7-12 certifications. Graduate candidates select specific topics to explore that are particularly germane to their certificate levels and companion competencies. **Prerequisite(s):* Acceptance into the Graduate Education Program is required. **Corequisite(s):* MSE 542 and MSE 544. Register by Instructor.

MSE 570 - Graduate Student Teaching
12.00 credits. This experience is supervised student teaching for a full semester in Special Education. To be taken in conjunction with the Graduate Research Seminar. **Prerequisite(s):* Acceptance into the Graduate Education Program is required. **Corequisite(s):* MSE 590. Graded Pass/No Pass. Register by Instructor.

MSE 590 - Graduate Research Seminar
4.00 credits. This course serves as the research seminar capstone for graduate teachers to understand and apply research theories and design, culminating in a scholarly paper and corresponding oral defense. Experience is supervised student teaching for a full semester in Special Education. To be taken in conjunction with the Graduate Student Teaching. **Prerequisite(s):* MSE 565. **Corequisite(s):* MSE 570. Register by Instructor.

Department of Engineering and Physics

Scanlin (Chair), Atwood, DeGoede, Estrada, Gravé, Hager, Read-Daily, Stuckey, Wunderlich

For more information, please visit the Department's website or check your course syllabi, which are available through the course instructor or at the High Library.

The Department of Engineering and Physics' principal goal is to prepare graduating students to compete successfully for desired professional positions or to be accepted into highly selective graduate programs. This is achieved by challenging our students with a significant and complete education in engineering and the sciences within a close-knit, safe and personal environment, integrated by the rich atmosphere and liberal arts curriculum of the College. Our programs are born of a sense of cooperation between professors and students, and between student peers. In our cooperative environment, we motivate students to become increasingly self-aware, independent thinkers and to develop teamwork and communication skills. While technical and scientific competence is the bedrock of our students' competitiveness, students also develop distinctive traits of caring and collaboration, which are becoming increasingly important in a world striving for meaning, harmony and peace. The knowledge, skills and character development attained by our students yield a sense of self-assurance founded in professional success and personal fulfillment.

Majors Offered

The Department of Engineering and Physics offers majors in **Engineering**, **Computer Engineering**, **Industrial Engineering Management**, **Physics** and **Secondary Education in Physics** (Physics Education). In addition, the Department participates in the **General Science Education program**.

Engineering, Computer Engineering, and Industrial Engineering Management students are also eligible to complete their degree under a co-op option. The Co-Op Program extends the 4-year degree into a 5-year program. Under this option the students are required to complete two seven-month co-op rotations. During these rotations, the students work full time (35+ hours/week) at an approved co-op site, thereby maintaining their status as full time students as participants in this degree option. During co-op semesters, students are charged an $500 administrative fee and are registered for a zero credit EGR470 Internship in Engineering course. Scholarships and grants are deferred during co-op semesters. Financial aid is not awarded during co-op semesters. Any student participating in the co-op program should notify the Financial Aid Office as soon as possible. Students may choose to live on campus with standard room and board fees during co-op rotations, but must live in off-campus housing during the 5th year.

Minors Offered

The Department of Engineering and Physics offers a **Technical Design minor** and a **Physics minor**. The Department also participates in the **General Science minor**.

Honors in the Discipline

The Department of Engineering and Physics participates in the College Honors in the Discipline Program. For guidelines, students should consult the Department Chair.

Computer Engineering (B.S.)

Student Learning Outcomes for Computer Engineering:

Students will be able to:

- Apply basic and advanced principles of mathematics, science, and engineering.
- Design and conduct experiments, as well as to analyze and interpret data.
- Design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
- Function on multi-disciplinary teams.
- Identify, formulate, and solve engineering problems.
- Understand and commit to professional and ethical responsibility.
- Communicate effectively orally and in writing.
- Understand the impact of engineering solutions in a global, economic, environmental, and societal context.
- Recognize the need for, and engage in life-long learning and professional growth.
- Understand contemporary issues.
- Use the techniques, skills, and modern engineering tools necessary for engineering practice.

The **Computer Engineering major** is offered in conjunction with the Computer Science Department and combines studies of engineering and computer technology, including both hardware and software. The Computer Engineering degree is accredited by the Engineering Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: (410) 347-7700. Our computer engineering program is designed to prepare graduates who will: 1) demonstrate a working knowledge of mathematics, physics, electrical engineering and computer science by developing successful careers and/or postgraduate study relating to digital system design, embedded systems, computer architecture, software design and development and/or project management; 2) meet the demands and challenges of the ever-changing computer-related professions by assessing multiple design solutions and finding creative applications of fundamental engineering principles; 3) adopt the scientific method as the cornerstone of their lifelong education and use their broad understanding of human institutions, achievements and values to become leaders in their chosen fields of endeavor; 4) display unwavering high ethical standards; and 5) contribute to the needs of, and in other ways enhance, their local communities and the world at large by applying problem-solving skills and critical and independent thinking to a broad range of projects that can produce technical innovation aimed at satisfying the future needs of society.

Computer Engineering majors may substitute PHY 200 for one of their Natural and Physical Science Core courses. PH 275 is approved to satisfy Humanities Core. Students may take up to 19 credits in up to three semesters at Elizabethtown without paying a credit overload fee. Engineering and Physics students must earn a C- or better in ALL prerequisite Engineering and Physics courses to continue in the major.

Computer Engineering majors are required to take:

- PHY 200 - College Physics I
- PHY 201 - College Physics II
- PHY 202 - College Physics III
- CS 121 - Computer Science I
- CS 122 - Computer Science II

- EGR 100 - Introduction to Engineering I
- EGR 110 - Introduction to Engineering II
- EGR 210 - Circuit Analysis
- EGR 220 - Electronics
- EGR 222 - Systems Programming (CS 222)
- EGR 230 - Microcomputer Architecture (CS 230)
- EGR 310 - Signals and Systems
- EGR 332 - Computer Organization and Architecture (CS 332)
- EGR 333 - Digital Circuits and Computer Interfacing (CS 333)
- EGR 400 - Engineering Portfolio
- EGR 410 - Control Systems
- EGR 422 - Operating Systems (CS 422)
- EGR 433 - Advanced Computer Engineering (CS 433)
- EGR 434 - Green Robotics, Automation, and Machine Intelligence (CS 434)
- EGR 491 - Senior Project in Engineering I
- EGR 492 - Senior Project in Engineering II
- CH 105 - NPS Fundamentals of Chemistry: Introduction to Molecular Science
- MA 121 - MA Calculus I
- MA 122 - Calculus II
- MA 222 - Calculus III
- MA 321 - Differential Equations
- PH 275 - HUM Science and Values

Engineering (B.S.)

Student Learning Outcomes for Engineering:

Students will be able to:

- Apply basic and advanced principles of mathematics, science, and engineering.
- Design and conduct experiments, as well as to analyze and interpret data.
- Design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
- Function on multi-disciplinary teams.
- Identify, formulate, and solve engineering problems.
- Understand and commit to professional and ethical responsibility.
- Communicate effectively orally and in writing.
- Understand the impact of engineering solutions in a global, economic, environmental, and societal context.
- Recognize the need for, and engage in life-long learning and professional growth.
- Understand contemporary issues.
- Use the techniques, skills, and modern engineering tools necessary for engineering practice.

The **Engineering major** is a rigorous program designed to lead to a technical career in industry or graduate school in engineering. The Engineering degree with concentrations in **Mechanical** and **Electrical** is accredited by the Engineering Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: (410) 347-7700. The new concentration in **Sustainable Design** introduced in fall 2011 has not yet been evaluated by ABET, but will be as part of the Engineering major in 2014.. Our engineering program is designed to prepare graduates who will: 1) develop successful careers relating to the design, development and/or implementation of complex devices and systems within fields integrating electrical, mechanical and modern physics aspects; 2) meet the demands and challenges of the rapidly changing world and the global marketplace, researching and developing novel technologies to solve the problems and address market forces in society; 3) continue to develop their technical and professional skills throughout their careers; 4) display unwavering high ethical standards; and 5) contribute to the needs of, and in other ways enhance, their local communities and the world at large.

Engineering majors may substitute PHY 200 for one of their Natural and Physical Science Core courses. PH 275 is approved to satisfy Humanities Core. Students may take up to 19 credits in up to three semesters at Elizabethtown without paying a credit overload fee. Engineering and Physics students must earn a C- or better in ALL prerequisite Engineering and Physics courses to continue in the major.

Engineering majors are required to take:

- PHY 200 - College Physics I
- PHY 201 - College Physics II
- PHY 202 - College Physics III
- EGR 100 - Introduction to Engineering I
- EGR 110 - Introduction to Engineering II
- EGR 210 - Circuit Analysis
- EGR 262 - Statics
- EGR 263 - Dynamics
- EGR 275 - Environmental Site Engineering and Design
- EGR 276 - Sustainable Resource Engineering and Design
- EGR 291 - Sophomore Project
- EGR 310 - Signals and Systems
- EGR 391 - Engineering Design and Junior Project
- EGR 395 - Fall Seminar
- EGR 396 - Spring Seminar
- EGR 400 - Engineering Portfolio
- EGR 410 - Control Systems
- EGR 491 - Senior Project in Engineering I
- EGR 492 - Senior Project in Engineering II
- CH 105 - NPS Fundamentals of Chemistry: Introduction to Molecular Science
- CS 121 - Computer Science I
- MA 121 - MA Calculus I
- MA 122 - Calculus II
- MA 222 - Calculus III
- MA 321 - Differential Equations
- PH 275 - HUM Science and Values

Engineering majors also must either:

(1) Select one of the following concentrations and complete all the courses in it, or (2) Earn the degree without a concentration by completing any five of the engineering courses listed under the four concentrations.

Mechanical Engineering:

- EGR 264 - Strength of Materials
- EGR 321 - Thermodynamics
- EGR 365 - Fluid Mechanics and Hydrology
- EGR 367 - Introductory Heat Transfer
- EGR 463 - Analytical Mechanics and Vibrations

Electrical Engineering:

- EGR 220 - Electronics
- EGR 302 - Electromagnetism (PHY 302)
- EGR 315 - Communication Theory
- EGR 351 - Physics of Semiconductor Devices
- EGR 352 - Fiber Optics Communication Systems

Sustainable Design:

- EGR 321 - Thermodynamics
- EGR 343 - Green Architectural Engineering
- EGR 365 - Fluid Mechanics and Hydrology
- EGR 434 - Green Robotics, Automation, and Machine Intelligence (CS 434)
- ART 105 - CE Drawing I
- SO 204 - SSC Population and Global Issues

Three credits from one of the following: (Topic must relate to Sustainable Design.)

- EGR 280 - Engineering Research/Project
- EGR 370-378 - Special Topics in Engineering (Special Topics courses MAY be offered on the topic of Sustainable Design and approved as an elective option for this 3-credit concentration requirement.)
- EGR 470-474 - Internship in Engineering

Industrial Engineering Management (B.S.)

Student Learning Outcomes for Industrial Engineering Management:

Students will be able to:

- Apply basic and advanced principles of mathematics, science, and engineering.
- Design and conduct experiments, as well as to analyze and interpret data.
- Design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
- Function on multi-disciplinary teams.

- Identify, formulate, and solve engineering problems.
- Understand and commit to professional and ethical responsibility.
- Communicate effectively orally and in writing.
- Understand the impact of engineering solutions in a global, economic, environmental, and societal context.
- Recognize the need for, and engage in life-long learning and professional growth.
- Understand contemporary issues.
- Use the techniques, skills, and modern engineering tools necessary for engineering practice.

The **Industrial Engineering Management major** is offered in cooperation with the Business Department and combines engineering physics with business administration. Because of the broad educational requirements of this degree, engineering accreditation is not appropriate for this program by the Engineering Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: (410) 347-7700. Our Industrial Engineering Management program is designed to prepare graduates who will (1) develop successful careers relating to the management, design, development and/or implementation of highly efficient complex industry systems; (2) meet the demands and challenges of the rapidly changing world and the global marketplace, researching and developing novel technologies to solve the problems and address market forces in industry; (3) continue to develop their technical and professional skills throughout their careers; (4) display unwavering high ethical standards; and (5) contribute to the needs of and in other ways enhance their local communities and the world at large.

Industrial Engineering Management majors may substitute PHY 200 for one of their Natural and Physical Science Core courses. PH 275 is approved to satisfy Humanities Core. Students may take up to 19 credits in up to three semesters at Elizabethtown without paying a credit overload fee. Engineering and Physics students must earn a C- or better in ALL prerequisite Engineering and Physics courses to continue in the major.

Industrial Engineering Management majors are required to take:

- PHY 200 - College Physics I
- PHY 201 - College Physics II
- PHY 202 - College Physics III
- EGR 100 - Introduction to Engineering I
- EGR 110 - Introduction to Engineering II
- EGR 391 - Engineering Design and Junior Project
- EGR 400 - Engineering Portfolio
- EGR 411 - Current Industrial Engineering Methods
- EGR 434 - Green Robotics, Automation, and Machine Intelligence (CS 434)
- EGR 492 - Senior Project in Engineering II
- AC 270 - Cost Management Accounting
- BA 265 - Management and Organizational Behavior
- BA 330 - Legal Environment of Business
- BA 466 - Operations and Production Management
- CH 105 - NPS Fundamentals of Chemistry: Introduction to Molecular Science
- CS 121 - Computer Science I
- EC 101 - Principles of Macroeconomics
- EC 102 - Principles of Microeconomics

- EN 282 - Technical Writing
- MA 121 - MA Calculus I
- MA 122 - Calculus II
- MA 222 - Calculus III
- MA 251 - MA Probability and Statistics
- PH 275 - HUM Science and Values
- PSY 105 - SSC General Psychology

- BA 248 - Quantitative Methods/Operations Management or
- MA 331 - Operations Research

Three of the following:

- EGR 210 - Circuit Analysis
- EGR 220 - Electronics
- EGR 230 - Microcomputer Architecture (CS 230)
- EGR 262 - Statics
- EGR 263 - Dynamics
- EGR 264 - Strength of Materials
- EGR 275 - Environmental Site Engineering and Design
- EGR 302 - Electromagnetism (PHY 302)
- EGR 310 - Signals and Systems
- EGR 315 - Communication Theory
- EGR 321 - Thermodynamics
- EGR 332 - Computer Organization and Architecture (CS 332)
- EGR 333 - Digital Circuits and Computer Interfacing (CS 333)
- EGR 352 - Fiber Optics Communication Systems
- EGR 365 - Fluid Mechanics and Hydrology
- EGR 410 - Control Systems

Physics (B.S.)

Student Learning Outcomes for Physics:

Students will be able to:

- Apply basic and advanced principles of mathematics and science.
- Design and conduct experiments, as well as to analyze and interpret data.
- Identify, formulate, and solve physics problems.
- Understand and commit to professional and ethical responsibility.
- Communicate effectively orally and in writing.
- Understand the impact of physics in a global, economic, environmental, and societal context.
- Recognize the need for, and engage in life-long learning and professional growth.

- Understand modern physics and other contemporary issues.
- Use the techniques, skills, and modern physics tools necessary for the practice of physics.

The **Physics major** provides baseline preparation either for graduate school or for the technical job market.

Physics majors may substitute PHY 200 for one of their Natural and Physical Science Core courses. Engineering and Physics students must earn a C- or better in ALL prerequisite Engineering and Physics courses to continue in the major.

Physics majors are required to take:

- PHY 200 - College Physics I
- PHY 201 - College Physics II
- PHY 202 - College Physics III
- PHY 302 - Electromagnetism (EGR 302)
- PHY 353 - Advanced Physics Laboratory
- PHY 361 - Applied Quantum Mechanics/Advanced Topics in Applied Physics (EGR 361)
- PHY 491 - Physics Research I
- PHY 492 - Physics Research II
- EGR 210 - Circuit Analysis
- EGR 263 - Dynamics
- CH 105 - NPS Fundamentals of Chemistry: Introduction to Molecular Science
- CS 121 - Computer Science I
- MA 121 - MA Calculus I
- MA 122 - Calculus II
- MA 222 - Calculus III
- MA 321 - Differential Equations

Two of the following:

- PHY 221 - Modern Physics
- PHY 423 - General Relativity
- EGR 220 - Electronics
- EGR 275 - Environmental Site Engineering and Design
- EGR 310 - Signals and Systems
- EGR 315 - Communication Theory
- EGR 321 - Thermodynamics
- EGR 351 - Physics of Semiconductor Devices
- EGR 352 - Fiber Optics Communication Systems
- EGR 365 - Fluid Mechanics and Hydrology
- EGR 463 - Analytical Mechanics and Vibrations

Physics Secondary Education (B.S.)

Student Learning Outcomes for Secondary Education:

Students will be able to:

- Apply basic and advanced principles of mathematics and science.
- Design and conduct experiments, as well as to analyze and interpret data.
- Develop and apply instructional methodologies appropriate to the grade and developmental level of students.
- Create, organize, and maintain an effective classroom environment conducive to learning and development.
- Identify, formulate, and solve physics problems.
- Use their knowledge and skills to maintain professionalism in their daily work.
- Plan and design appropriate instructional and assessment activities.
- Understand the impact of physics in a global, economic, environmental, and societal context.
- Recognize the need for, and engage in life-long learning and professional growth.
- Design and implement successful interventions responsive to the needs of children with special needs.
- Use the techniques, skills, and modern physics tools necessary for the practice of physics.

A **Secondary Education major in Physics** is offered in conjunction with the Education Department and leads to Pennsylvania teacher certification at the secondary level.

Physics Education majors may substitute PHY 200 for one of their Natural and Physical Science Core courses. Engineering and Physics students must earn a C- or better in ALL prerequisite Engineering and Physics courses to continue in the major.

Required courses for this major are:

- PHY 200 - College Physics I
- PHY 201 - College Physics II
- PHY 202 - College Physics III
- PHY 221 - Modern Physics

- ES 113 - NPS Earth in Space: Evolution of a Planet or
- ES 114 - NPS Geosystems: Landscapes, Oceans and Atmosphere

- EGR 210 - Circuit Analysis
- EGR 321 - Thermodynamics
- BIO 101 - NPS Biological Concepts
- BIO 103 - NPS Living with the Environment
- CH 105 - NPS Fundamentals of Chemistry: Introduction to Molecular Science
- CS 121 - Computer Science I
- MA 121 - MA Calculus I
- MA 122 - Calculus II
- MA 222 - Calculus III

Education Courses:

- ED 105 - Foundations of Teaching and Learning
- ED 151 - Early Adolescent/Adolescent Development
- ED 161 - Integrated Technology I
- SED 222 - Foundations of Inclusive Education (MSE 522)
- ED 305 - Methods of Secondary Education
- ED 341 - ELL: Linguistic and Cultural Diversity in the Classroom
- ED 470 - Professional Internship
- ED 497 - Senior Seminar for Secondary Education
- Two English courses for Education certification, one literature and one writing (EN 100 or EN 150)

Physics Minor

Note: Students must earn a C- or better in ALL prerequisite Engineering and Physics courses to continue in the minor.

Physics minors are required to take:

- PHY 200 - College Physics I
- PHY 201 - College Physics II
- PHY 202 - College Physics III
- PHY 221 - Modern Physics
- Six additional credits in physics, PHY 105 and higher.

Technical Design Minor

Students will learn to solve complex real world problems on multidisciplinary teams.

Note: Students must earn a C- or better in ALL prerequisite Engineering and Physics courses to continue in the minor.

Technical Design Minors are required to take:

- PHY 200 - College Physics I or
- PHY 103 - General Physics I

- PHY 201 - College Physics II or
- PHY 104 - General Physics II

- EGR 100 - Introduction to Engineering I or
- PHY 105 - NPS How Things Work

- EGR 110 - Introduction to Engineering II
- EGR 391 - Engineering Design and Junior Project
- EGR 395 - Fall Seminar
- EGR 396 - Spring Seminar

- EGR 491 - Senior Project in Engineering I
- EGR 492 - Senior Project in Engineering II

- EGR 291 - Sophomore Project or
- EGR 280 - Engineering Research/Project

Engineering Courses

EGR 100 - Introduction to Engineering I
2.00 credits. Introduction to the study, practice and various branches of engineering, including problem solving, teamwork, project management, design, and graphical communication, including sketching and computer-aided modeling. Includes a design project, guest speakers and plant tours. **Corequisite(s):* EGR 100L. Hours: combined lecture/discussion/laboratory 4. Fall semester.

EGR 110 - Introduction to Engineering II
2.00 credits. Introduction to the development of mathematical techniques for engineering applications including Matlab and statistics. Also a study of engineering ethics, and written and oral technical communication. Continued exploration of the engineering design process, including a design-and-build project. **Prerequisite(s):* EGR 100. **Corequisite(s):* EGR 110L. Hours: combined lecture/discussion/laboratory 4. Spring semester.

EGR 210 - Circuit Analysis
4.00 credits. Introduction to linear circuit analysis and basic electric circuit components. Topics covered include DC analysis, AC analysis and transient analysis for circuits containing resistors, inductors, capacitors and diodes. **Prerequisite(s):* PHY 201. **Corequisite(s):* EGR 210L. Hours: lecture 3, laboratory 3. Fall semester.

EGR 220 - Electronics
4.00 credits. Practical and theoretical study of fundamental components and circuits, including transistors, diodes, integrated circuits, power supplies, filters, amplifiers, control circuits and some digital electronics. **Prerequisite(s):* EGR 210. **Corequisite(s):* EGR 220L. Hours: lecture 3, laboratory 3. Spring semester, odd-numbered years.

EGR 222 - Systems Programming (CS 222)
4.00 credits. This course covers advanced programming and machine representation of data and data structures, including dynamic structures and files. Topics include memory allocation, run-time data organization, function linkage and parameter passing, interrupt processing and the relationship between high level and machine language. **Prerequisite(s):* CS 122. Spring semester.

EGR 230 - Microcomputer Architecture (CS 230)
4.00 credits. Board-level design of microcomputers and the study of various computer architectures and hardware/software computing platforms. Topics include computer ethics, hardware components such as memory registers, central processor types, controllers, peripherals, input/output architecture and devices, memory management and networking. **Prerequisite(s):* CS 121. Spring semester.

EGR 262 - Statics
3.00 credits. Equilibria of particles and rigid bodies subject to concentrated and distributed forces with practical applications to the design of mechanical structures. Topics include structural analysis, internal forces, friction, inertial properties and virtual work. **Prerequisite(s):* PHY 200. Fall semester.

EGR 263 - Dynamics
3.00 credits. Newtonian mechanics of particles, a system of particles and of rigid bodies in fixed and moving reference frames in three dimensions. Topics include energy and momentum concepts, Euler's equations, and the simple oscillator. With applications to mechanical systems. **Prerequisite(s):* PHY 200. **Prerequisite* or **Corequisite*: MA 222. Fall semester.

EGR 264 - Strength of Materials
4.00 credits. Behavior of materials under load up to and including fracture with applications to the design of physical systems. Topics include axial stress and strain, torsion, pressure vessels, stresses in beams, combined multiaxial stresses, failure criteria, linear elastic fracture mechanics, fatigue, and materials science structure-function relationships. Includes a two-hour lab each week, including Finite Element Analysis. **Prerequisite(s):* EGR 262. Spring semester, even-numbered years.

EGR 275 - Environmental Site Engineering and Design
3.00 credits. The theory and application of geophysical imaging methods to the investigation of subsurface materials and structures that are likely to have significant engineering and environmental implications. A wide variety of methods including seismic reflection, seismic refraction, electromagnetic, ground-penetrating radar, potential fields, electrical resistivity, and borehold logging will be introduced and examined. Natural and man-made disasters will be discussed. **Prerequisite(s):* PHY 201 and MA 122. Spring semester.

EGR 276 - Sustainable Resource Engineering and Design
3.00 credits. Engineering and design practices to make use of natural resources such that environmental impacts are minimized and benefits to human civilization are maximized. Design of sustainable habitats and infrastructure for third world countries. **Corequisite(s):* PHY 202. Fall semester.

EGR 280 - Engineering Research/Project
Variable credit. A student may participate in an ongoing research or design project for academic credit. Registration for this course must be approved by the supervising faculty member and the Department Chair. Juniors and seniors are encouraged to submit proposals for Independent Study (Engineering 480-489). Can be taken Pass/No Pass. Register by Instructor.

EGR 291 - Sophomore Project
1.00 credit. An engineering project performed in small teams under the supervision of the instructor. Progress reports and a final report and presentation are required. Spring semester.

EGR 302 - Electromagnetism (PHY 302)
3.00 credits. An intermediate course in electromagnetism including electro- and magnetostatics and dynamics, Maxwell's equations, macroscopic fields, electromagnetic waves and special relativity. **Prerequisite(s):* PHY 201. **Prerequisite* or **Corequisite*: MA 321. Spring semester.

EGR 310 - Signals and Systems
3.00 credits. Analysis of continuous-time linear systems, discrete-time linear systems, and methods of signal sampling and reconstruction. Applications of Fourier Series, Fourier Transform and Laplace Transform. Exploration of digital signal processing using Matlab programming. **Prerequisite(s):* EGR 210. Fall semester.

EGR 315 - Communication Theory
3.00 credits. Design and analysis of continuous time-domain control systems using system modeling techniques and simulation software for control algorithms. Evaluation of control system performance and design criteria including feedback, stability, sensitivity, time and frequency response. Introduction to similar topics in the discrete-time domains. Includes a two-hour laboratory each week applying the theory to physical systems. **Prerequisite(s):* EGR 310. Spring semester, even-numbered years.

EGR 321 - Thermodynamics
3.00 credits. Properties of pure substances, equations of state, laws of thermodynamics applied to analysis of closed systems and control volumes. Emphasis on macroscopic thermodynamics and engineering applications. **Prerequisite(s):* PHY 202, or permission of the instructor. Spring semester, odd-numbered years.

EGR 332 - Computer Organization and Architecture (CS 332)
4.00 credits. Introduction to Boolean algebra, design of combinational and sequential circuits, and their use in von Neumann computer architecture. Basic parts of computer systems including memory, control and input-output systems are studied. The student is expected to design a simple micro-programmed computer. **Prerequisite(s):* CS 121. Fall semester.

EGR 333 - Digital Circuits and Computer Interfacing (CS 333)
4.00 credits. Digital logic and integrated circuits to implement logic; architecture and machine language programming of minicomputers and microprocessors; design, testing, and construction of instrument-to-computer and computer-to-instrument interfaces; design and testing of supporting software. **Prerequisite(s):* CS 332/EGR 332, or permission of the instructor. Spring semester, odd-numbered years.

EGR 343 - Green Architectural Engineering
3.00 credits. State-of-the-art green architectural engineering methods for residential, commercial, and industrial real-estate development in industrialized countries. Green building design methods for heating, cooling, lighting, power generation & distribution, water-management, indoor air-quality control, and noise abatement. Green construction methods. Green building standards including local building codes, zoning ordinances, and national and international standards. Case studies from the simplest Amish homes to state-of-the-art US, EU, and Asian green architectures. **Corequisite(s):* PHY 202, or permission of the instructor. Fall semester, even-numbered years.

EGR 351 - Physics of Semiconductor Devices
3.00 credits. An introduction to semiconductor crystals and their properties; carrier modeling and action; fundamentals of carrier generation, transport, recombination and storage in semiconductors; principles of operation of p-n junction diodes, bipolar junction transistors, MOS field-effect transistors, MOS capacitors and some semiconductor photonic/optoelectronic devices. Device modeling is performed at a level that addresses basic physical principles and, at the same time, provides notions useful for integrated circuit analysis and design. **Prerequisite(s):* PHY 201. Fall semester, even-numbered years.

EGR 352 - Fiber Optics Communication Systems
3.00 credits. Course includes an introduction to optics, fiber optics and optical communications. Among the topics covered in the course: an overview of geometric and wave optics; the optical fiber, optical confinement; step-index fibers and graded-index fibers; single-mode and multimode fibers; numerical aperture; loss, dispersion and nonlinearities in fibers; splices, connectors, couplers and gratings; optical transmitters, light sources and electronic driving circuits; optical receivers, detectors and noise, optical amplifiers; optic-link design, single-wavelength fiber-optic network topologies, standard fiber networks; wavelength-division multiplexing; solution-link design. **Prerequisite(s):* PHY 201. Fall semester, odd-numbered years.

EGR 361 - Applied Quantum Mechanics/Advanced Topics in Applied Physics (PHY 361)
4.00 credits. Course offers an introduction to applied quantum mechanics, including a review of the origins of quantum mechanics, basic concepts and postulates, Schrodinger equation, simple one-dimensional potentials, potential wells, tunneling, Bloch theorem, harmonic oscillators, the hydrogen atom model, crystal structure, reciprocal lattice, Brillouin zone, band theory, effective mass, quantum statistics, Fermi level, thermal properties of crystals and phonons, basic charge transport, interaction with radiation, perturbation theory, and laser physics. The course is integrated by a weekly one-hour seminar, during which students will present a summary of their overview/research efforts on advanced topics. **Prerequisite(s):* PHY 202. Spring semester, even-numbered years.

EGR 365 - Fluid Mechanics and Hydrology
3.00 credits. Topics include fluid properties, fluid statics, control volume analysis, steady and unsteady Bernoulli equation, and introduction to differential analysis of fluid flow. Laminar and turbulent flow in pipes and channels and in external flow. The boundary layer concept, lift and drag. Runoff and catchment. **Prerequisite(s):* PHY 202 and EGR 263. Spring semester, odd-numbered years.

EGR 367 - Introductory Heat Transfer
3.00 credits. This course introduces the three modes of heat transfer - conduction, convection, and radiation. These concepts will be applied to analyze problems of practical interest including fins and heat exchangers. There will be a strong emphasis placed on deriving the governing equations, as this indicates understanding of the underlying physics. Since it is difficult to obtain analytical solutions to most practical heat transfer problems, numerical solution methods will also be covered. **Prerequisite(s):* EGR 263 and EGR 321. Spring semester, odd-numbered years.

EGR 370-378 - Special Topics in Engineering
Variable credit. An opportunity to offer courses that are not part of the regular curriculum. This course is repeatable for credit.

EGR 391 - Engineering Design and Junior Project
2.00 credits. This course explores design methodology and practice under the supervision of the instructor. Progress reports including a final report and presentation are required. Hours: lecture 1 and project work. Spring semester.

EGR 395 - Fall Seminar
1.00 credit. Seminar series with weekly presentations of topics of current interest in engineering. Speakers include practicing engineers and researchers from industry or other academic institutions, Elizabethtown faculty, and senior-level Elizabethtown students. Graded Pass/No Pass. Fall semester.

EGR 396 - Spring Seminar
1.00 credit. Seminar series with weekly presentations of topics of current interest in engineering. Speakers include practicing engineers and researchers from industry or other academic institutions, Elizabethtown faculty, and senior-level Elizabethtown students. Graded Pass/No Pass. Spring semester.

EGR 400 - Engineering Portfolio
0.00 credit. The portfolio will provide students with a vehicle for documenting their achievements and competencies in engineering. Graded Pass/No Pass.

EGR 410 - Control Systems
4.00 credits. Design and analysis of continuous time-domain control systems using system modeling techniques and simulation software for control algorithms. Evaluation of control system performance and design criteria including feedback, stability, sensitivity, time and frequency response. Introduction to similar topics in the discrete-time domains. Includes a two-hour laboratory each week applying the theory to physical systems. **Prerequisite(s):* EGR 310. **Corequisite(s):* EGR 410L. Spring semester.

EGR 411 - Current Industrial Engineering Methods
3.00 credits. Production management with emphasis on process improvement, cost reduction, incentives and ergonomics. Students also conduct preliminary work for their senior project. **Prerequisite(s):* BA 248. Register by Instructor. Fall semester, even-numbered years

EGR 422 - Operating Systems (CS 422)
4.00 credits. An examination of the principles and theories behind the design of operating systems as well as their practical implementation. Topics include executives and monitors, task handlers, scheduling algorithms, file handlers, device drivers and interrupt handlers, theories of resource allocation and sharing, multiprocessing and interprocess communication. **Prerequisite(s):* CS 222 and CS 332 / EGR 332. Spring semester, even-numbered years.

EGR 433 - Advanced Computer Engineering (CS 433)
4.00 credits. Circuit level design and implementation of complete computer systems. Major laboratory projects require students to design, build, test and demonstrate computer hardware designs using Field Programmable Gate Arrays and bread boarded circuits. Class lectures include design of embedded systems, microcontrollers, microprocessors and supercomputers. **Prerequisite(s):* CS 332/EGR 332. Hours: lecture 3, laboratory 3. Spring semester, even-numbered years.

EGR 434 - Green Robotics, Automation, and Machine Intelligence (CS 434)
4.00 credits. Cutting-edge innovations in robotics, automation, and machine Intelligence that result in the most environmentally-friendly and humanity-sensitive use of technology and resources to manufacture products or aid humans. Various forms of Machine Intelligence including Symbolic AI which uses programmed rules, heuristics, and forms of knowledge representation; and artificial neural networks which are connectionist computer architectures (hardware or software) where many computational nodes are connected to solve problems requiring rapid adaptation, or where governing equations are not known or cannot be easily computed. Mobile-robot and robotic-arm theory, applications, simulations, real-time control, and path-planning strategies are included. **Prerequisite(s):* CS 121 and MA 121. Fall semester, odd-numbered years.

EGR 463 - Analytical Mechanics and Vibrations
3.00 credits. Lagrangian formulations for three-dimensional motion of particles and rigid bodies. Linear free and forced responses of one and multi degree of freedom systems and simple continuous systems. Introduction to vibration control/absorption. **Prerequisite(s):* EGR 263. Spring semester, even-numbered years.

EGR 470-474 - Internship in Engineering
Variable credit. Opportunity for students to intern in an engineering setting. Graded Pass / No Pass. Register by Instructor. This course is repeatable for credit.

EGR 480-489 - Independent Study in Engineering
Variable credit. Study and experimentation in an area of interest to the student and faculty member. **Prerequisite(s):* Permission of the Independent Study Committee. Register by Instructor. This course is repeatable for credit.

EGR 491 - Senior Project in Engineering I
2.00 credits. A demanding, and perhaps original, engineering project performed under close supervision of a faculty member. Students usually work in teams on the given project. For this course, the scope of the project typically includes problem definition, development of requirements, and preliminary design work. Progress reports, a final report and a public seminar are required. Register by Instructor.

EGR 492 - Senior Project in Engineering II
2.00 credits. A demanding, and perhaps original, engineering project performed under close supervision of a faculty member. Students usually work in teams on the given project. For this course, the scope of the project typically includes detail and final design work and construction of a working prototype. Progress reports, a final report and a public seminar are required. Register by Instructor.

Earth Science Courses

ES 113 - NPS Earth in Space: Evolution of a Planet
4.00 credits. **(Natural and Physical Science Core Course)** A broad introduction to Earth System Science that integrates basic topics in geology and astronomy as a means to understand the origin and evolution of planet Earth. Dramatic events and processes that shaped Earth's history, such as big bang cosmology, stellar evolution, planetary formation, plate tectonics, the rock cycle, crustal deformation and mountain building, the evolution of continents and ocean basins, earthquakes and volcanism are explored. Includes discovery-oriented exercises, including field trips to local geological sites, the local planetarium and several stargazing sessions for firsthand study of materials containing evidence for the processes and events studied in class. **Corequisite(s):* ES 113L. Hours: lecture 3, laboratory 2. Fall semester.

ES 114 - NPS Geosystems: Landscapes, Oceans and Atmosphere
4.00 credits. **(Natural and Physical Science Core Course)** Introduction to geology and meteorology, presenting Earth as an intricately coupled system that makes life possible. Landscapes, plate tectonics, oceans and atmosphere, chaos and weather prediction, climates and patterns of change, and landscape modification by the hydrologic system. Discovery-oriented lab includes field trips to geological sites. **Corequisite(s):* ES 114L. Hours: lecture 3, laboratory 2. Spring semester.

ES 117 - NPS Climate Change and the Fate of Civilization
4.00 credits. **(Natural and Physical Science Core Course)** This course explores the science of climate change and its impact on past and future civilizations. Students will learn how the Earth’s climate system works; the factors responsible for climate change and how those factors interact; the impact of past climate changes on civilizations; climate models, observations, and hypotheses utilized to predict future climate. Finally, the course examines the connection between human activity and the current warming trend and the potential environmental, economic, and social consequences of climate change.

ES 216 - Physical Geography
3.00 credits. Introduction to the physical bases for geography, including earth/sun relationships, map projections, weather patterns, climates and landforms. Register by Instructor. Fall semester, even-numbered years.

ES 275 - Engineering and Environmental Geophysics
3.00 credits. The theory and application of geophysical imaging methods to the investigation of subsurface materials and structures that are likely to have significant engineering and environmental implications. A wide variety of methods including seismic reflection, seismic refraction, electromagnetic, ground-penetrating radar, potential fields, electrical resistivity, and borehold logging will be introduced and examined. **Prerequisite(s):* PHY 201 and MA 122. Spring semester.

Honors Earth Science Courses

HES H215 - HNR Meteorology
4.00 credits. An introductory, yet comprehensive course about the atmosphere: causes, effects and geographic distribution of weather/climate. Scientific basis for meteorology, up to and including special emphasis on how the changing world of weather may affect our atmospheric environment. Hours: lecture/lab/discussion: 4. Register by Instructor.

Physics Courses

PHY 103 - General Physics I
4.00 credits. A study of the principles of physics, including mechanics (motion, equilibrium, work, energy and momentum), fluids, heat and oscillatory motion. ***Prerequisite(s):*** Level II math placement or completion of Math Core requirement. Students who have credit for PHY 200 may not enroll in this course for credit. ***Corequisite(s):*** PHY 103L and PHY 103D. Hours: lecture 3, discussion 1, laboratory 2. Fall semester.

PHY 104 - General Physics II
4.00 credits. Continuation of PHY 103. Topics include waves, sound, electricity and magnetism, geometric optics, and radioactivity. ***Prerequisite(s):*** PHY 103. Students who have credit for PHY 201 may not enroll in this course for credit. ***Corequisite(s):*** PHY 104L. Hours: lecture 3, discussion 1, laboratory 2. Spring semester.

PHY 105 - NPS How Things Work
4.00 credit. **(Natural and Physical Science Core Course)**
Based on activities experienced in daily life, students will learn several physical concepts. By experiencing science at work students will become more comfortable with it and will understand the predictable nature of the universe and dispel the "magic" of science and technology. Students learn how various technologies work and will develop their physical intuition of the world. Topics may include: amusement park rides, bicycles, baseball, human movement, automobiles, clocks, musical instruments, audio amplifiers, radio, lasers, cameras, computers, copiers, power generation and distribution, and nuclear reactors. Course will include a laboratory component each week. ***Corequisite(s):*** PHY 105L. Hours: lecture 3, laboratory 1.5.

PHY 200 - College Physics I
4.00 credits. Introduction to the basic concepts of mechanics, classical kinematics and dynamics (linear and rotational motion, work and energy, impulse and momentum), friction, statics, universal gravitation, and relativity. ***Prerequisite(s):*** or corequisite(s): MA 121. Students who have credit for PHY 103 may not enroll in this course for credit. ***Corequisite(s):*** PHY 200L. Hours: combined lecture/discussion 4, laboratory 2.

PHY 201 - College Physics II
4.00 credits. A continuation of PHY 200. Introduction to the basic concepts of electricity and magnetism. Covering topics on fields, waves, potential, current, resistance, capacitance, inductance, direct current circuits, alternating current circuits, and quantum mechanics. ***Prerequisite(s):*** PHY 200. Students who have credit for PHY 104 may not enroll in this course for credit. ***Corequisite(s):*** PHY 201L. Hours: combined lecture/discussion 4, laboratory 2. Spring semester.

PHY 202 - College Physics III
4.00 credits. Introduction to oscillations, fluids, thermodynamics, and optics. The laboratory introduces numerical analysis and iterative solutions. ***Prerequisite(s):*** PHY 200. ***Corequisite(s):*** PHY 202L. Hours: combined lecture/discussion 4, laboratory 2. Fall semester.

PHY 221 - Modern Physics
3.00 credits. Twentieth-century developments in the structure of the atom. Topics include X-rays, radioactivity, atomic spectra, blackbody radiation, introduction to quantum theory emphasizing the extranuclear structure of the atom, elementary particles, nuclear structure and transformations. ***Prerequisite(s):*** PHY 201 and MA 122. Fall semester.

PHY 302 - Electromagnetism (EGR 302)
3.00 credit. An intermediate course in electromagnetism including electro- and magnetostatics and dynamics, Maxwell's equations, macroscopic fields, electromagnetic waves and special relativity. ***Prerequisite(s):*** PHY 201. ***Prerequisite*** or ***Corequisite***: MA 321. Spring semester.

PHY 353 - Advanced Physics Laboratory
3.00 credits. Experimentation, data acquisition, data analysis and technical presentations appropriate for the physical and chemical sciences. Emphasis on statistics of physical/chemical experimental data and computer methods of analysis, including electronic laboratory notebooks and computer networks. ***Prerequisite(s):*** PHY 201 and MA 121. Hours: lecture 2, laboratory 6. Fall semester.

PHY 361 - Applied Quantum Mechanics/Advanced Topics in Applied Physics (EGR 361)
4.00 credits. Course offers an introduction to applied quantum mechanics, including a review of the origins of quantum mechanics, basic concepts and postulates, Schrodinger equation, simple one-dimensional potentials, potential wells, tunneling, Bloch theorem, harmonic oscillators, the hydrogen atom model, crystal structure, reciprocal lattice, Brillouin zone, band theory, effective mass, quantum statistics, Fermi level, thermal properties of crystals and phonons, basic charge transport, interaction with radiation, perturbation theory, and laser physics. The course is integrated by a weekly one-hour seminar, during which students will present a summary of their overview/research efforts on advanced topics. ***Prerequisite(s):*** PHY 202. Spring semester, even-numbered years.

PHY 370-378 - Special Topics in Physics
3.00 credits. Topics in physics not covered in other courses. Register by Instructor. This course is repeatable for credit.

PHY 423 - General Relativity
3.00 credits. An introduction to calculus on manifolds, differential topology, exterior calculus, affine geometry, Riemannian geometry, special relativity and general relativity with applications to relativistic cosmology. ***Prerequisite(s):*** MA 122 and MA 201, or permission of instructor. Offered as needed.

PHY 480-489 - Independent Study in Physics
3.00 credits. Study and experimentation in an area of interest to the student and faculty member. ***Prerequisite(s):*** Approval of Department Chair and Independent Study Committee. Register by Instructor. This course is repeatable for credit.

PHY 491 - Physics Research I
2.00 credits. An original experiment or theoretical investigation performed under the close supervision of a faculty member. A written thesis and a public seminar are required. Hours: laboratory 6. Register by Instructor.

PHY 492 - Physics Research II
2.00 credits. An original experiment or theoretical investigation performed under the close supervision of a faculty member. A written thesis and a public seminar are required. Hours: laboratory 6. Register by Instructor.

Department of English

Downing (Chair), Adams, Harman, Martin, Mead, Olson, Rohrkemper, Sarracino, Skillen, Waters, Webster, Willen

For more information, please visit the Department's website or check your course syllabi, which are available through the course instructor or at the High Library.

The Department of English offers an education that stresses both the knowledge and effective use of language and an understanding and appreciation of literature. Excellence in both writing and literary studies is the fundamental aim of the core program and of the rigorous and comprehensive concentrations that prepare students for graduate training in English or professions such as law and medicine, for professional writing careers in a variety of fields, or for teaching at the secondary level of education.

Majors Offered

The English Department offers an **English major** with concentrations in **Literature**, **Professional Writing** and **Secondary Education certification in English**.

Minors Offered

The Department of English offers a **Literature minor** and a **Professional Writing minor**. Each minor requires five courses (20 credits).

Honors in the Discipline

The Department of English participates in the College Honors in the Discipline Program. For guidelines, students should consult the Department Chair.

English (B.A.)

Student Learning Outcomes for English:

Students will be able to:

- Appropriately apply a variety of rhetorical strategies in the creation of texts.
- Appropriately apply a variety of interpretive strategies in the analysis of texts.
- Find appropriate primary and secondary research materials, adequately apply them in writing to support their own arguments, and correctly and consistently cite their sources.
- Analyze the relationships among literature, language, and culture from the perspective of a critic.
- Empathize with those that they perceive in some way as different from themselves.
- Work independently to plan and complete advanced projects with little or no intervention from a professor.
- Collaborate effectively with other individuals and in larger teams.

Additional Student Learning Outcomes for Professional Writing concentration:

Students will be able to:

- Use several writing technologies effectively.
- Apply appropriate document design principles in a variety of contexts.
- Select appropriate publication outlets for their texts to successfully complete the publication process for a variety of different venues (e.g. electronic media, books, newspapers, magazines, etc.)
- Accurately apply professional editing and proofreading skills.
- Present their oral, written, and document design work in a professional manner.
- Appropriately integrate and synthesize their professional skills in real-world settings while exhibiting professional decorum appropriate to the context.

English majors in all concentrations must complete the second semester of an ancient or modern language course at the 112 level or higher (if so placed).

The English Literature concentration requires:

- EN 200 - Major British Writers
- EN 220 - WCH Pre-1800 British Literature
- EN 230 - WCH Post-1800 British Literature
- EN 240 - WCH American Literature
- One 300-level genre or themes course
- One English elective (185 or higher)
- One 400-level authors seminar
- EN 494 - Seminar in Literary Theory

One additional American literature course:

- EN 240 - WCH American Literature
- EN 245 - HUM Growing Up in America
- EN 251 - HUM Multicultural Literature
- EN 440 - American Authors

One middle-digit 8 writing course:

- EN 185 - Introduction to Professional Writing
- EN 280 - Creative Writing - Poetry, Prose
- EN 281 - CE Writing and Analyzing the Short Story
- EN 282 - Technical Writing
- EN 283 - Legal Writing
- EN 285 - Business and Public Relations Writing
- EN 286 - Creative Non-Fiction
- EN 287 - Writing Children's Literature
- EN 385 - Writing and Editing for Publication

- CW 386 - Word, Web, and Design

Or English language course:

- EN 302 - The English Language

Note: In the Literature concentration, one course (excluding EN 403 Shakespearean Drama) at the 300 or 400 level must be a pre-1800 British literature course. No course may satisfy more than one requirement for the major. Students may substitute an approved independent study (480-489) for one of the 300-level courses.

The English Professional Writing concentration requires:

- EN 185 - Introduction to Professional Writing

- EN 200 - Major British Writers or
- EN 240 - WCH American Literature

- EN 220 - WCH Pre-1800 British Literature or
- EN 230 - WCH Post-1800 British Literature

- One 300-level genre course
- One 400-level authors course
- EN 493 - Seminar in Rhetorical Theory

One writing in the workplace course:

- EN 282 - Technical Writing
- EN 285 - Business and Public Relations Writing

One creative genres course:

- EN 280 - Creative Writing - Poetry, Prose
- EN 281 - CE Writing and Analyzing the Short Story
- EN 286 - Creative Non-Fiction
- EN 287 - Writing Children's Literature

One publishing course:

- EN 385 - Writing and Editing for Publication
- CW 386 - Word, Web, and Design

One writing elective:

- EN 283 - Legal Writing
- EN 302 - The English Language
- EN 470-474 - Internship in English

Note: In the Professional Writing concentration, one course from the periods, authors or genres category must be a pre-1800 British literature course (excluding EN 403 Shakespearean Drama). Students may fulfill their writing elective by completing a second course from the Writing in the Workplace category or the Publishing category.

English Secondary Education (B.A.)

Student Learning Outcomes for English Secondary Education:

Students will be able to:

- Appropriately apply a variety of rhetorical strategies in the creation of texts.
- Appropriately apply a variety of interpretive strategies in the analysis of texts.
- Find appropriate primary and secondary research materials, adequately apply them in writing to support their own arguments, and correctly and consistently cite their sources.
- Analyze the relationships among literature, language, and culture from the perspective of a critic.
- Empathize with those that they perceive in some way as different from themselves.
- Work independently to plan and complete advanced projects with little or no intervention from a professor.
- Collaborate effectively with other individuals and in larger teams.
- Develop a broad range of pedagogical skills in planning lessons for the middle and/or high school English language arts classroom.
- Apply appropriate methods in delivering lessons in a middle and/or high school English language arts classroom.
- Demonstrate, through extensive professional practice in early and late field experiences, the ability to utilize advanced content knowledge of English literature, composition, and language systems while planning and delivering lessons in middle and/or high school classroom.

English majors in all concentrations must complete the second semester of an ancient or modern language course at the 112 level or higher (if so placed).

The English Secondary Education concentration (English Education) requires:

- EN 185 - Introduction to Professional Writing
- EN 200 - Major British Writers

- EN 220 - WCH Pre-1800 British Literature or
- EN 230 - WCH Post-1800 British Literature

- Two courses from the EN 240 series
- EN 251 - HUM Multicultural Literature
- EN 301 - English Grammar and Linguistics
- EN 302 - The English Language
- EN 306 - Methods Seminar in Teaching Language and Composition

- EN 403 - Shakespearean Drama
- One 300-level genre or themes course or 400-level authors seminar
- Two Math courses for Education certification

One middle-digit 8 writing course:

- EN 180 - CE Introduction to Creative Writing
- EN 185 - Introduction to Professional Writing
- EN 280 - Creative Writing - Poetry, Prose
- EN 281 - CE Writing and Analyzing the Short Story
- EN 282 - Technical Writing
- EN 283 - Legal Writing
- EN 285 - Business and Public Relations Writing
- EN 286 - Creative Non-Fiction
- EN 287 - Writing Children's Literature
- EN 385 - Writing and Editing for Publication
- EN 480-489 - Independent Study in English
- CW 386 - Word, Web, and Design

Education Courses:

- ED 105 - Foundations of Teaching and Learning
- ED 151 - Early Adolescent/Adolescent Development
- ED 161 - Integrated Technology I
- SED 222 - Foundations of Inclusive Education (MSE 522)
- ED 305 - Methods of Secondary Education
- ED 341 - ELL: Linguistic and Cultural Diversity in the Classroom
- ED 470 - Professional Internship
- ED 497 - Senior Seminar for Secondary Education
- Two English courses for Education certification, one literature and one writing (EN 100 or EN 150)

English Literature Minor

The English Literature minor requires:

- One 300-level genre or themes elective
- One 400-level authors elective
- One literature or writing elective, 185 or higher

Two courses from:

- EN 200 - Major British Writers
- EN 220 - WCH Pre-1800 British Literature
- EN 230 - WCH Post-1800 British Literature
- EN 240 - WCH American Literature

Note: One 300-level or 400-level course must be a pre-1800 course.

English Professional Writing Minor

The English Professional Writing minor requires:

- EN 185 - Introduction to Professional Writing
- Two 200- or 300-level writing electives (middle digit 8)
- One 200-level British or American literature elective
- One 300- or 400-level literature elective

English Courses

EN 100 - PLE Writing and Language
4.00 credits. **(Power of Language Core Course)** A writing course focusing on writing as a process of discovery concerning ideas, drafting, revising and editing. Students read, write and speak about a variety of aspects of the power of language. *Note: Students assigned to EN 100 may not enroll in EN 150, and those placed in EN 150 may not enroll in EN 100.

EN 101 - CE Literature: Form and Performance
4.00 credits. **(Creative Expression Core Course)** An examination of various forms of literature with the purpose of understanding both how they produce distinct aesthetic experiences and how to use these forms creatively. Individual sections might focus on poetry, drama, Shakespeare, short story, film, and the novel, or some combination of these. This course does not count toward the English major or minor. This course is repeatable for credit.

EN 102 - WCH Western Literary Culture
4.00 credits. **(Western Cultural Heritage Core Course)** An exploration of Western culture via literary forms such as film, prose, and poetry, this course places cultural understandings in context and relates the past to the present. Since the course may vary in content, it may be repeated for credit, provided the content is not duplicated. This course does not count toward the English major or minor.

EN 103 - NCH Literary Culture of the East
4.00 credits. **(Non-Western Cultural Heritage Core Course)** An exploration of non-Western culture via literary forms such as film, prose, and poetry, this course places cultural understandings in context and relates the past to the present. Since the course may vary in content, it may be repeated for credit, provided the content is not duplicated. This course does not count toward the English major or minor.

EN 104 - HUM Introduction to Literature
4.00 credits. **(Humanities Core Course)** An introduction to a specific literary genre or combination of genres (drama, fiction or poetry) that emphasizes the nature of language and form and helps students make moral and aesthetic judgments. This course also may include a thematic focus. *Since the course may vary in focus, it may be repeated for credit, provided the content is not duplicated. This course does not count toward the English major or minor.

EN 150 - PLE Advanced Writing and Language
4.00 credits. **(Power of Language Core Course)** A writing course designed to explore the writing process and the history of the English language, its past and present uses and powers. Students write, read and speak about a variety of aspects of the history and power of language. *Note: Students assigned to EN 100 may not enroll in EN 150, and those placed in EN 150 may not enroll in EN 100.

EN 180 - CE Introduction to Creative Writing
4.00 credits. **(Creative Expression Core Course)** This course encourages students' creative self-expression and develops their understanding and appreciation of the three principal genres of fiction, drama, and poetry. This course does not count toward the English major or minor.

EN 185 - Introduction to Professional Writing
4.00 credits. The varieties of discourse and research in professional writing, including instruction in basic terminology and graphic techniques. **Prerequisite(s):* Power of Language - English requirement.

EN 200 - Major British Writers
4.00 credits. A survey course designed to introduce majors to the literature of Britain, to important literary and historical concepts, and to the essential skills and methods of the discipline (such as close textual analysis, techniques for developing original and interesting theses, and basic uses of literary criticism). Spring semester. *Students in the literature and English Education concentrations should take this course as soon as possible after declaring an English major.

EN 220 - WCH Pre-1800 British Literature
4.00 credits. **(Western Cultural Heritage Core Course) *A Guided Writing and Research Course.** A study of the literature and culture of Britain before 1800, with an emphasis on the literary forms, philosophy, cosmology, sexual roles and political events of this important period of growth in English literature. This course focuses on Medieval, Renaissance or Neoclassical literature. *Since the course may vary in focus, it may be repeated for credit, provided the content is not duplicated.

EN 230 - WCH Post-1800 British Literature
4.00 credits. **(Western Cultural Heritage Core Course) *A Guided Writing and Research Course.** An examination of post-1800 British poetry, fiction and nonfiction prose in historical and cultural contexts. Each section of the course will cover writers from one or more periods: the Romantic period (e.g., Blake, Wordsworth and Keats); the Victorian period (e.g., Dickens, Charlotte Bronte, Tennyson and Browning); and the Modern period, 1900 to the present (e.g., Woolf, Yeats, Joyce and Achebe). *Since the course may vary in focus, it may be repeated for credit, provided the content is not duplicated.

EN 240 - WCH American Literature
4.00 credits. **(Western Cultural Heritage Core Course) *A Guided Writing and Research Course.** A study of the literature and culture of America from the beginnings to modern times. Each section of the course covers writers from one or more periods: the Romantic period; the Realist period; and the Modern period. *Since the course may vary in focus, it may be repeated for credit, provided the content is not duplicated.

EN 245 - HUM Growing Up in America
4.00 credits. **(Humanities Core Course) *A Guided Writing and Research Course.** Through a careful reading of important American novels and biographies, students will better understand the distinct experiences that comprise growing up in America. Both the uniqueness of experiences of growing up in America and the universality of shared problems, crises, challenges and joys are explored.

EN 251 - HUM Multicultural Literature
4.00 credits. **(Humanities Core Course) *A Guided Writing and Research Course.** An examination of poetry, fiction, drama and nonfiction prose from cultures traditionally marginalized because of ethnic and racial differences. The course investigates the historical role and context of American and world authors such as Frederick Douglass, Jean Toomer, Sherman Alexie and Sandra Cisneros, as well as the values evident in their work.

EN 280 - Creative Writing - Poetry, Prose
4.00 credits. The writing of original poetry or prose. Graded Pass/No Pass. Register by Instructor.

EN 281 - CE Writing and Analyzing the Short Story
4.00 credits. **(Creative Expression Core Course) *A Guided Writing and Research Course.** Students will analyze classic short stories using the language and concepts of literary criticism through, discussion, oral presentation, and a major research paper. Emulating classic literary models, they will write original short stories, revising according to detailed critiques by their peers and the instructor. **Prerequisite(s):* Power of Language requirement.

EN 282 - Technical Writing
4.00 credits. A course emphasizing clarity and precision in writing and including instruction in oral and graphic presentation of technical and scientific information. *Professional Writing majors must have completed EN 185. Register by Instructor. Fall semester.

EN 283 - Legal Writing
4.00 credits. A survey of the types of writing common in government, politics and law. Students practice basic legal analysis, statistical analysis, persuasion and more advanced forms of legal writing, such as the appellate brief. *Professional Writing majors must have completed EN 185. Register by Instructor. Alternate years.

EN 285 - Business and Public Relations Writing
4.00 credits. This course is designed to strengthen each student's competence and confidence in business communication. Students will focus on the most common writing tasks in business and public relations, including instruction and practice in writing and laying-out display ads, news releases, brochures, newsletters, in-house proposals and business plans. *Professional Writing majors must have completed EN 185. Register by Instructor. Spring semester.

EN 286 - Creative Non-Fiction
4.00 credits. A readings and workshop course in literary nonfiction, this course acquaints students with the research and writing techniques used by writers of nonfiction and with the history of the genre. Students select their own writing projects from a variety of genres. *Professional Writing majors must have completed EN 185. Register by Instructor. Alternate years.

EN 287 - Writing Children's Literature
4.00 credits. An introductory survey of children’s literature primarily from 19th and 20th century British and American authors. Students write fiction and nonfiction for a variety of current target markets in children’s literature, such as picture books, early readers, chapter books, and middle-grade to young-adult level books. *Professional Writing majors must have completed EN 185. Register by Instructor. Alternate years.

EN 301 - English Grammar and Linguistics
2.00 A study of the four major approaches (i.e. prescriptive, descriptive, generative, and contextual) English grammar and English linguistics. This course includes a retrospective study of how the system of the English language was established and how the system has changed over time. Enrollees will extend their own knowledge of English grammar and linguistics and apply these concepts to their work in their selected fields of study. This course is intended for future English teachers; however, the course is open to all students. **Prerequisite(s):* EN 100. Alternating spring semesters.

EN 302 - The English Language
4.00 credits. A study of historical, grammatical and linguistic analyses of the English language. This course includes traditional, transformational and transactional grammars; and structural, social and psycholinguistics, including biological and environmental influences on language acquisition. Alternate years.

EN 306 - Methods Seminar in Teaching Language and Composition
4.00 credits. The teaching of English grammar and usage with reference to teaching composition at the secondary school level and practical application of various methodologies through teaching internships in the classroom and/or the Learning Center. *Must be completed prior to the professional semester.

EN 311 - Genre Studies
4.00 credits. A study of a particular genre such as autobiography or nonfiction narrative. Representative works will be discussed. *Since the course may vary in focus, it may be repeated for credit, providing the content is not duplicated.

EN 313 - Studies in Drama
4.00 credits. A study of drama considering such issues as links between the visual and verbal representation of meaning, and the development of the concepts of comedy and tragedy. *Since the course may vary in focus from early drama to modern, it may be repeated for credit, provided the content is not duplicated.

EN 317 - Studies in Narrative
4.00 credits. A study of narratives, with attention to the history and development of genres such as the novel. Both literary and theoretical works are discussed. *Since the course may vary in focus, it may be repeated for credit, provided the content is not duplicated.

EN 318 - Studies in Poetry
4.00 credits. A study of at least three major poets from one or more periods of American or English literature. *Since the course may vary in focus from early forms to modern, it may be repeated for credit, provided the content is not duplicated.

EN 320 - Themes, Traditions and Perspectives
4.00 credits. This course examines selected literary themes and traditions and brings a variety of critical perspectives to bear on works of poetry, drama and/or prose. *Since the course may vary in thematic focus, it may be repeated for credit provided the content is not duplicated.

EN 370-378 - Special Topics in English
4.00 credits. Courses involving specific subjects chosen in response to student and faculty interest. This course is repeatable for credit.

EN 385 - Writing and Editing for Publication
4.00 credits. Advanced study of writing nonfiction articles, copy editing and strategies for getting manuscripts published. *Professional Writing majors must have completed EN 185 and either EN 282 or EN 285. Register by Instructor. Alternate years.

EN 403 - Shakespearean Drama
4.00 credits. A study of representative works by Shakespeare. Does not fulfill the 400-level authors seminar requirement. Alternate years.

EN 420 - Pre-1800 British Authors
4.00 credits. A seminar focused on the writings of one or more British authors active before 1800, such as Chaucer, the Pearl Poet, Donne and Herrick, or Pope and Swift. *Since the authors studied may vary from term to term, the course may be repeated for credit, provided the content is not duplicated.

EN 430 - Post-1800 British Authors
4.00 credits. A seminar focused on the writings of one or more British authors active after 1800, such as Blake or Coleridge, or Austen and Eliot. *Since the authors studied may vary from term to term, the course may be repeated for credit, provided the content is not duplicated.

EN 440 - American Authors
4.00 credits. A seminar focused on the writings of one or more American authors, such as Hemingway, Morrison and Faulkner, or Hall, Bly and Kinnell. *Since the authors studied may vary from term to term, the course may be repeated for credit, provided the content is not duplicated.

EN 450 - World Authors
4.00 credits. A seminar focused on the writings of one or more Continental or non-Western authors, such as Dante, Tolstoy or Kafka. *Since the authors studied may vary from term to term, the course may be repeated for credit, provided the content is not duplicated.

EN 470-474 - Internship in English
Variable (2.00 to 4.00) credits. Internships provide students with practical workplace experience at a newspaper office, magazine publisher, public relations firm, or other venue for professional writing. Register by Instructor. This course is repeatable for credit.

EN 480-489 - Independent Study in English
Variable credit. Individual students are provided the opportunity to pursue work in an area of major interest under the guidance of a member of the Department of English. **Prerequisite(s):* Approval of Department Chair and the Independent Study Committee. Register by Instructor. This course is repeatable for credit.

EN 493 - Seminar in Rhetorical Theory
4.00 credits. A seminar for majors in the Professional Writing concentration on the history of rhetoric and its application to the composing process. **Prerequisite(s):* Professional Writing concentration, EN 185, and one 200-level professional writing course.

EN 494 - Seminar in Literary Theory
4.00 credits. A seminar for majors in the Literature concentration on literary theory and its application to texts. **Prerequisite(s):* Literature concentration, and junior or senior status, or permission of the instructor. Alternate years.

EN 498 - Directed Senior Research I
2.00 credits. English majors of superior ability are allowed to explore a topic of their choosing and to produce a major work of 40 to 60 pages. **Prerequisite(s):* Senior standing, a grade point average of 3.50 or higher in the major and overall, and permission of the Department. Two credits are awarded each semester of the senior year. See the Department Chair or Head of the English Directed Senior Research Program for more information. Register by Instructor.

EN 499 - Directed Senior Research Project II
2.00 credits. English majors of superior ability are allowed to explore a topic of their choosing and to produce a major work of 40 to 60 pages. **Prerequisite(s):* Senior standing, a grade point average of 3.50 or higher in the major and overall, and permission of the Department. Two credits are awarded each semester of the senior year. See the Department Chair or Head of the English Directed Senior Research Program for more information. Register by Instructor.

Honors English Courses

HEN H243 - HNR American Visions: Cultural Dialogue in the U.S.
4.00 credits. A study of American cultural history with an emphasis on how popular culture, political and social history, and the fine arts reveal new ways of understanding American fiction in transitional eras. Register by Instructor.

HEN H252 - HNR HUM Irony, Humor, and Despair in Modern Literature
4.00 credits. **(Humanities Core Course - Honors)**
An exploration of the relationship among several quintessential modern writers and an investigation of their use of humor and irony to stave off despair and affirm at least the value of artistic creation and the need for each of us to assert meaning in life. Register by Instructor.

HEN H253 - HNR Gaelic and Anglo-Irish Ireland
4.00 credits. A study of the intersection between the Gaelic and Anglo-Irish linguistic, cultural and literary traditions of Ireland. Besides exploring the past and present state of Gaelic language and culture, the class will focus on the impact of the older Gaelic heritage on English-language classics by writers such as Swift, Joyce, Yeats, Beckett and Heaney. Register by Instructor.

Latin Courses

LAT 111 - PLO Elementary Latin 1
4.00 credits. **(Power of Language Core Course)**
This class is designed to introduce students to the Latin language and the cultural/ historical contexts in which the language was used. Through a study of the history, philosophy, religion, literature of ancient Rome and Greece, students will learn to make culturally informed translations of Latin into English. Acquisition of Latin vocabulary and grammatical concepts will enhance English vocabulary and grammar. Class sessions will include introductions to and discussions of grammatical concepts, reading practice, review of homework assignments, and discussion of cultural nuances. Because the course is designed to develop an ability to read Latin, quizzes and exams will emphasize translation from Latin into English. Some homework exercises will also ask students to translate English into Latin. Fall semester.

LAT 112 - PLO Elementary Latin 2
4.00 credits. **(Power of Language Core Course)**
This class is designed for students to continue their study of the Latin language and the history, philosophy, religion, literature, and sentiments expressed by it. Students will build on the knowledge learned in Latin 1 by exploring more advanced concepts in the structure and grammar of the language. Additionally, this course will provide students with an understanding of Roman history and culture in order to further their ability to make informed translations of Latin into English. Class sessions will include discussion of new grammatical concepts, reading practice, review of homework assignments, and discussion of cultural nuances. Because the course is designed to develop the ability to read Latin, quizzes and exams will emphasize translation from Latin into English. Some homework exercises, however, will ask students to translate English into Latin. **Prerequisite(s):* LAT 111 or two years of high school Latin courses. Spring semester.

Department of Fine and Performing Arts

Bomberger (Chair), Badgerow, Behrens, Daughtrey, Friedly, M. Fritz, Haines, P. Ricci, Ronning, Shorner-Johnson, Spence, Swanson, Wolf-Spencer

For more information, please visit the Department's website or check your course syllabi, which are available through the course instructor or at the High Library.

The Department of Fine and Performing Arts prepares students to be engaged, life-long participants in the arts as a vocation or an avocation. Each discipline balances breadth of aesthetic knowledge with depth of professional preparation. The Department encourages students to use their knowledge and skills to benefit others.

The Department of Fine and Performing Arts includes programs in Fine Arts, Music and Theatre. In addition to courses in each of these areas, it offers courses in Dance and has a **Preparatory Music Division** that offers instruction to pre-college students, adults and college students who desire to take instruction without credit. Instruction is available from the Department's faculty and other qualified teachers. Interested persons should contact Prof. Grant Moore, Director of the Preparatory Division.

The Department offers three majors that lead to degrees in music: the **Bachelor of Music** in **Music Education**, **Bachelor of Music** in **Music Therapy**, and **Bachelor of Arts** in **Music**. A minor is offered in **Music**.

The **Fine Arts Major** leads to a **Bachelor of Arts** in **Studio Art**, **Art History**, or **K-12 Art Education Certification**. The Fine Arts minor is offered in **Studio Art** and **History of Art**.

Also offered is **Bachelor of Arts** in **Theatre** and a minor in **Theatre**.

Honors in the Discipline

The Department of Fine and Performing Arts participates in the College Honors in the Discipline Program. For guidelines, students should consult the Department Chair.

Fine Arts Program

The Fine Arts program prepares students for careers as professional artists, art educators and art historians. The curriculum fosters the development of the individual's creative potential in a range of media and introduces students to the variety of world art throughout history. Annual exhibitions on campus, the opportunity to study abroad, and internships at galleries and museums expand students' experience of the contemporary art scene. Art Education majors share their knowledge of the visual arts through teaching and fulfill the college mission "Educate for Service."

Fine Arts Majors

The **Fine Arts Major** offers major concentrations in **Studio Art**, **Art History** or **K-12 Art Education Certification**.

Fine Arts Minors

The Fine and Performing Arts Department offers minor concentrations in **Studio Art** and **Art History**.

Music Programs

The music unit prepares students to engage meaningfully and successfully in a music-filled world. The Bachelor of Arts degree in music offers the flexibility to design an individualized emphasis, while Bachelor of Music degrees in music education and music therapy reflect our support of the College's motto of "Educate for Service." Music major curricula stress development of the knowledge, skills, and experience for students to become well-equipped professionals. Music majors are chosen through an audition/interview process in which their performance and listening skills as well as their aptitudes for their prospective majors are evaluated. Curricular and co-curricular opportunities are provided for students to study and experience music at all levels.

Elizabethtown College is an accredited institutional member of the National Association of Schools of Music.

The Department has adopted requirements for junior standing for Music majors. A copy of these requirements is available in the Department office.

Music Majors

The Department offers a **Bachelor of Music** in **Music Education**, **Bachelor of Music** in **Music Therapy**, and **Bachelor of Arts** in **Music**.

Music Minor

The **Music minor** provides students with opportunities to acquire and develop skills in music theory, music performance, music history and literature. **A student electing to minor in Music must consult with the Department Chair, who assigns a music faculty member to assess the student's readiness for admission to the program.**

Special Notes Regarding Applied Music Lessons and Ensembles

Students who register for applied music for credit must meet minimum standards established by the Department and should contact the Department office for a list of standards for each applied area. Students who have not attained the level necessary for credit may study through the Preparatory Division. Students in applied music advance as rapidly as their abilities permit. They must study technical exercises and literature from various musical periods and styles.

Students may register with or without credit for the established music ensembles and for other ensembles organized under faculty supervision; ensemble registration for credit may be repeated. All students must meet the standards for attendance at rehearsals and public performances established by the faculty Directors.

Applied music lessons and certain music ensembles may be counted for the Creative Expression requirement of the Core Program if taken as letter-graded for four semesters. An additional fee is charged for applied music lessons. Fees are printed on the master course schedule.

Special Notes Regarding Transfer Credit for Aural Skills and Functional Keyboard Skills

The Department of Fine and Performing Arts, F&PA, reserves the right to administer a diagnostic exam to verify a student's skill level PRIOR to awarding academic transfer credit for Aural Skills and Functional Keyboard Skills. This policy was established to ensure academic success at the appropriate level. ALL students accepted into a music program should contact the Fine and Performing Arts Department for more information on assessment of transfer credits.

Theatre Program

Theatre Major

The Department offers a **Bachelor of Arts** in **Theatre**. The Theatre curriculum is based on a liberal arts foundation, requiring a series of Theatre Core courses followed by a concentration in either **Performance** or **Theatre Technology**. Students have multiple opportunities to enhance classroom training with practical experiences.

Theatre Minor

The Department also offers a **Theatre minor**, with either a **Minor Performance track** or a **Minor Technical track**.

Fine Arts (B.A.)

Student Learning Outcomes for Fine Arts:

Students will be able to:

- Create original works of visual art using the fundamental techniques of two and three dimensional media.
- Discuss the major art movements in the history of Europe and the United States and the artistic traditions of Asia, Africa and the Americas.
- Prepare works of art for a professional exhibition.
- Demonstrate knowledge of the visual arts in an educational or professional setting.

The Fine Arts program offers three major concentrations: **Studio Art**, **Art History** and **K-12 Art Education Certification**. To prepare for careers working in museums and galleries, or to pursue graduate study in the history of art, students should major in **Art History.** Students who want to obtain certification as art teachers on the elementary or secondary levels should major in **Art Education**.

For the Fine Arts: Studio track, students must take the following nine foundational courses:

- ART 105 - CE Drawing I
- ART 106 - CE Ceramics I
- ART 120 - CE Sculpture I

- ART 130 - Computer Art or
- ART 251 - Printmaking I

- ART 155 - WCH Introduction to the History of Art I
- ART 157 - WCH Introduction to the History of Art II
- ART 205 - Painting I
- ART 210 - Drawing II
- ART 498 - Senior Seminar and Portfolio

In addition, students must take one 200-300 level studio elective course:

- ART 204 - Watercolor
- ART 206 - Ceramics II
- ART 305 - Painting II
- ART 320 - Sculpture II
- ART 352 - Printmaking II

One 200-300 level art history elective course:

- ART 230 - American Art
- ART 250 - Neoclassicism and Romanticism
- ART 260 - Modernism
- ART 270 - Art of Africa, Asia, & Americas
- ART 360 - Italian Renaissance (HI 360)

One 400-level studio elective course:

- ART 401 - Advanced Studies in Ceramics
- ART 402 - Advanced Studies in Drawing
- ART 403 - Advanced Studies in Painting
- ART 404 - Advanced Studies in Printmaking
- ART 405 - Advanced Studies in Sculpture
- ART 470-474 - Internship in Fine Arts

For the Fine Arts: Art History track, students must take the following eight foundational courses:

- ART 105 - CE Drawing I
- ART 106 - CE Ceramics I
- ART 120 - CE Sculpture I

- ART 130 - Computer Art or
- ART 251 - Printmaking I

- ART 155 - WCH Introduction to the History of Art I
- ART 157 - WCH Introduction to the History of Art II
- ART 205 - Painting I
- ART 498 - Senior Seminar and Portfolio

In addition, students must take three 200-400 level art history elective courses:

- ART 230 - American Art
- ART 250 - Neoclassicism and Romanticism
- ART 260 - Modernism
- ART 270 - Art of Africa, Asia, & Americas
- ART 360 - Italian Renaissance (HI 360)
- ART 470-474 - Internship in Fine Arts

One 200-300 level studio elective course:

- ART 206 - Ceramics II
- ART 210 - Drawing II
- ART 251 - Printmaking I (if not already taken as a foundational course)
- ART 305 - Painting II
- ART 320 - Sculpture II
- ART 352 - Printmaking II

Fine Arts Education (B.A.)

Some courses within the concentration areas can be double counted within the foundational Art Education major requirements. Admission to the Fine Arts Education program is dependent upon meeting the general requirements for admission to the undergraduate program of the Department of Education. Please refer to the course catalog for the admission requirements for the undergraduate program of the Department of Education. Upon completion of this degree program, students are eligible to obtain the Pennsylvania Teaching Certification in Art K-12.

Note: Formal Acceptance must be met as a prerequisite to all ED 300 courses and ART 310 and ART 315.

For the Fine Arts: Art Education track:

- ED 105 - Foundations of Teaching and Learning
- ED 151 - Early Adolescent/Adolescent Development
- ED 161 - Integrated Technology I
- ED 341 - ELL: Linguistic and Cultural Diversity in the Classroom
- ED 470 - Professional Internship
- ED 497 - Senior Seminar for Secondary Education
- SED 222 - Foundations of Inclusive Education (MSE 522)
- Two English courses for Education certification, one literature and one writing (EN 100 or EN 150)
- Two math courses for Education certification

Students must complete 10 foundational art courses:

- ART 105 - CE Drawing I
- ART 106 - CE Ceramics I
- ART 120 - CE Sculpture I

- ART 130 - Computer Art or
- ART 251 - Printmaking I

- ART 205 - Painting I
- ART 210 - Drawing II
- ART 155 - WCH Introduction to the History of Art I
- ART 157 - WCH Introduction to the History of Art II
- ART 310 - Art Education Methodologies & Curriculum Development - Elementary
- ART 315 - Art Education Methodologies & Curriculum Development - Secondary

Eight credits of 200-300 level Art History electives:

- ART 230 - American Art

- ART 250 - Neoclassicism and Romanticism
- ART 260 - Modernism
- ART 270 - Art of Africa, Asia, & Americas
- ART 360 - Italian Renaissance (HI 360)

In addition, students must complete one of the following concentrations:

Drawing:

- ART 105 - CE Drawing I
- ART 210 - Drawing II
- ART 402 - Advanced Studies in Drawing

Sculpture:

- ART 120 - CE Sculpture I
- ART 320 - Sculpture II
- ART 405 - Advanced Studies in Sculpture

Painting:

- ART 205 - Painting I

- ART 204 - Watercolor or
- ART 305 - Painting II

- ART 403 - Advanced Studies in Painting

Ceramics:

- ART 106 - CE Ceramics I
- ART 206 - Ceramics II
- ART 401 - Advanced Studies in Ceramics

Graphics/Media Arts (Select any three courses):

- ART 130 - Computer Art
- ART 145 - CE Digital Photography (COM 145)
- ART 251 - Printmaking I
- ART 352 - Printmaking II
- ART 404 - Advanced Studies in Printmaking

Music (B.A.)

Student Learning Outcomes for Music:

Students will be able to:

- Perform proficiently with the creative and performance skills appropriate to the student's principal instrument.
- Identify and synthesize key components of Western tonal music theory and music history.
- Demonstrate mastery of aural skills including sight reading and dictation (melodic and harmonic).
- Demonstrate piano skills appropriate to the needs of a studio teacher.

The requirements for the **Music major** are flexible and are determined by the needs and interests of each student.

Under the guidance of a Department advisor, each student designs a program that includes 58 credits of music courses, but must include the following:

- MU 100 - Repertoire Class (eight semesters)
- MU 101 - Theory I
- MU 102 - Theory II
- MU 103 - Aural Skills I
- MU 104 - Aural Skills II
- MU 117 - Functional Keyboard Skills I
- MU 118 - Functional Keyboard Skills II
- MU 201 - Theory III
- MU 202 - Theory IV
- MU 203 - Aural Skills III
- MU 204 - Aural Skills IV
- MU 211 - Music History: 1600-1850
- MU 212 - Music History: 1850 to the Present
- MU 217 - Functional Keyboard Skills III
- MU 218 - Functional Keyboard Skills IV
- MU 321 - Conducting I
- MU 441 - History of Early Music
- MU 495 - Seminar in Musicology
- Eight credits in Applied Music
- Six credits of Ensemble with at least one term's enrollment in MU 360 (Search Course Descriptions listing for MU 360)
- Ten credits of Music free electives
- The student must complete Modern Language 112 (or a higher course, if so placed by testing)
- A senior recital

Music Education (B.M.)

Student Learning Outcomes for Music Education:

Students will be able to:

- Perform proficiently with the creative and performance skills appropriate to the student's principal instrument.
- Identify and synthesize key components of western tonal music theory and music history.

- Demonstrate mastery of aural skills including sight reading and dictation (melodic and harmonic).
- Demonstrate the ability to synthesize theoretical knowledge and practical skills in order to plan, teach and assess classroom teaching in the K–12 school environment.
- Perform on secondary instruments including piano, guitar, voice and classroom instruments at a level appropriate to teach in the K–12 school setting.
- Synthesize, integrate, and adapt past and current music teaching and learning theories in the context of varying teaching placements and situations.
- Display attitudes and attributes that are consistent with the level of professionalism expected from public and private school teachers.

For music education majors, MU 211 and MU 212 together will satisfy the Western Cultural Heritage Area of Understanding for Core. Admission to the Music Education program is dependent upon meeting the general requirements for admission to the undergraduate program of the Department of Education. Please refer to the course catalog for the admission requirements for the undergraduate program of the Department of Education. Upon completion of this degree program, students are eligible to obtain the Pennsylvania Instructional I Teaching Certificate. The Music Education major is approved by the Pennsylvania Department of Education. This program can be completed in four years but may require additional summer coursework.

Music Education requires:

- MU 100 - Repertoire Class (seven semesters)
- MU 101 - Theory I
- MU 102 - Theory II
- MU 103 - Aural Skills I
- MU 104 - Aural Skills II

- MU 111 - Voice Class or
- MU 133 - Diction for Singers

- MU 117 - Functional Keyboard Skills I

- MU 118 - Functional Keyboard Skills II or
- MU 268 - CE Voice

- MU 119 - Guitar Class I
- MU 130 - Survey of Music Education
- MU 201 - Theory III
- MU 202 - Theory IV
- MU 203 - Aural Skills III
- MU 204 - Aural Skills IV
- MU 205 - NCH World Music
- MU 211 - Music History: 1600-1850
- MU 212 - Music History: 1850 to the Present
- MU 217 - Functional Keyboard Skills III
- MU 218 - Functional Keyboard Skills IV

- MU 230 - Music Teaching and Learning
- MU 231 - Brass Class
- MU 232 - Woodwind Class
- MU 234 - Percussion Class
- MU 237 - String Class
- MU 240 - Conducting Laboratory
- MU 321 - Conducting I
- MU 322 - Conducting II
- MU 330 - General Music Methods and Materials
- MU 331 - General Music Field Experience
- MU 332 - Music Technology
- MU 333 - Choral Music Methods and Materials
- MU 334 - Choral Music Field Experience Laboratory
- MU 433 - Instrumental Music Methods and Materials
- MU 434 - Instrumental Music Methods Field Experience
- MU 440 - Arranging
- MU 471 - Professional Internship in Music Education
- MU 491 - Student Teaching Seminar
- MU 495 - Seminar in Musicology
- A minimum of eight additional credits of Applied Music study
- Two semesters of MU 363 or MU 364
- Seven semesters of participation in other Ensemble(s) with at least one term's enrollment in MU 360 (Search Course Descriptions listing for MU 360)
- A senior recital
- Proficiency examinations in piano, voice and guitar
- ED 105 - Foundations of Teaching and Learning
- ED 151 - Early Adolescent/Adolescent Development
- ED 341 - ELL: Linguistic and Cultural Diversity in the Classroom
- ED 497 - Senior Seminar for Secondary Education
- SED 222 - Foundations of Inclusive Education (MSE 522)
- Two English courses for Education certification, one literature and one writing (EN 100 or EN 150)
- Two math courses

Additional Requirements for Music Education:

A Music Education major may not enroll in a course required for that major unless a grade of C- or better has been earned in all prerequisite courses. To graduate, a Music Education major must maintain the following standards:

A Music Education major must earn a grade of C- or better in all music and music education courses.

A Music Education major must satisfy the standards and requirements of the educational practicum and student-teaching experiences.

Provisional acceptance must be met as a prerequisite to all 200-level education courses.

Formal acceptance must be met as a prerequisite to all 300-level education and methods courses.

Music Therapy (B.M.)

Student Learning Outcomes for Music Therapy:

Students will be able to:

- Perform proficiently with the creative and performance skills appropriate to the student's principal instrument.
- Identify and synthesize key components of Western tonal music theory and music history.
- Demonstrate mastery of aural skills including sight reading and dictation (melodic and harmonic).
- Implement music and nonmusic methods and techniques that effectively assist clients in modifying responses identified in their assessment, treatment, session, and termination plans.
- Communicate client progress through grammatically correct, detailed written and oral reports to colleagues, supervisors, and parents/caretakers.
- Perform proficient vocal, guitar, and keyboard skills to effectively lead and accompany clients during music therapy sessions.
- Demonstrate professional skills and physical and emotional stability necessary for working as a music therapist.
- Read, critique, and apply research to their music therapy work.

For Music Therapy majors, MU 211 and MU 212 together will satisfy the Western Cultural Heritage Area of Understanding for Core.

An approximately six-month long internship in an approved clinical facility is required for the Music Therapy degree and is taken after the completion of the four-year Music Therapy program. Upon completion of this degree program, students are eligible to sit for the Music Therapy Certification Board Exam leading to Board Certification as a Music Therapist. The Music Therapy program is approved by the American Music Therapy Association.

Music Therapy requires:

- MU 100 - Repertoire Class (eight semesters)
- MU 101 - Theory I
- MU 102 - Theory II
- MU 103 - Aural Skills I
- MU 104 - Aural Skills II

- MU 111 - Voice Class or
- MU 117 - Functional Keyboard Skills I

- MU 118 - Functional Keyboard Skills II or
- MU 268 - CE Voice

- MU 119 - Guitar Class I or
- MU 275 - CE Guitar

- MU 150 - Professional Seminar (eight semesters)
- MU 151 - Introduction to Music Therapy
- MU 152 - Music Therapy and Clinical Populations
- MU 201 - Theory III
- MU 202 - Theory IV
- MU 203 - Aural Skills III
- MU 204 - Aural Skills IV
- MU 205 - NCH World Music
- MU 211 - Music History: 1600-1850
- MU 212 - Music History: 1850 to the Present
- MU 217 - Functional Keyboard Skills III
- MU 218 - Functional Keyboard Skills IV
- MU 236 - Percussion for Music Therapy
- MU 241 - Music Therapy Methods and Techniques I
- MU 253 - Music Therapy Methods and Techniques II
- MU 254 - Practical Experiences I: Music Therapy
- MU 255 - Arranging and Composing for Clinic
- MU 321 - Conducting I
- MU 332 - Music Technology
- MU 351 - Clinical Improvisation
- MU 355 - Practical Experiences II: Music Therapy
- MU 356 - Practical Experiences III: Music Therapy
- MU 357 - Music Therapy Methods and Techniques III
- MU 358 - Psychology of Music and Research Methods I
- MU 454 - Psychology of Music and Research Methods II
- MU 457 - Practical Experiences IV: Music Therapy
- MU 458 - Practical Experiences V: Music Therapy
- MU 459 - Music Therapy Methods and Techniques IV
- MU 479 - Professional Internship in Music Therapy
- MU 495 - Seminar in Musicology
- PSY 221 - Abnormal Psychology
- PSY 225 - Developmental Psychology
- A minimum of eight additional credits in Applied Music instruction
- A minimum of five credits in Ensemble with at least one term's enrollment in Music 360 (Search Course Descriptions listing for MU 360)
- Proficiency exams in piano, voice, and guitar
- A senior recital

Specific courses to be included in the student's Core Program are:

- BIO 101 - NPS Biological Concepts or
- BIO 111 - Molecules, Cells, and Animal Systems

- BIO 201 - Human Anatomy and Physiology I (counts as Natural and Physical Science Core for Music Therapy students)
- MA 251 - MA Probability and Statistics

- PSY 105 - SSC General Psychology

Additional Requirements for Music Therapy

A Music Therapy major may not enroll in a music or music therapy course required for that major unless a grade of C- or better has been earned in all prerequisite courses. To graduate, a Music Therapy major must maintain the following standards:

A Music Therapy major must earn a grade of C- or better in all music and music therapy courses.

A Music Therapy major must satisfy the standards and requirements in all fieldwork education, including clinical practicums and the internship.

Theatre (B.A.)

Student Learning Outcomes for Theatre:

Students will be able to:

- Think conceptually and critically about text, performance, and production and communicate those thoughts clearly and effectively.
- Classify Western dramatic literature by genre, style, and historical period.
- Analyze Western dramatic literature.
- Demonstrate a proficiency in standard theatre production processes.
- Describe how theatre reflects and relates to society, and how theatre and society can affect each other.

The Theatre major requires 43-44 credits:

- TH 105 - HUM Introduction to Theatre
- TH 155 - CE Stagecraft
- TH 165 - CE Basic Acting
- TH 255 - CE Fundamentals of Theatrical Design
- TH 310 - Theatre History
- TH 320 - Directing for the Theatre
- TH 340 - Modern and Contemporary Drama: From Realism to the Present
- TH 405 - Senior Project in Theatre

One course from:

- TH 240 - Playwriting
- EN 313 - Studies in Drama
- EN 403 - Shakespearean Drama

In addition, the Performance concentration requires:

- TH 230 - Movement for the Actor

- TH 235 - Voice for the Actor
- TH 360 - Performance Practicum (two semesters)
- DA 101 - CE Introduction to Modern Dance

The Theatre Technology concentration requires:

- TH 315 - Advanced Stagecraft
- TH 355 - Theatrical Design Studio
- TH 350 - Design and Production Practicum (two semesters)
- ART 105 - CE Drawing I

Art History Minor

The Art History minor requires:

- ART 155 - WCH Introduction to the History of Art I
- ART 157 - WCH Introduction to the History of Art II

Three 200- to 400-level Art History electives:

- ART 230 - American Art
- ART 250 - Neoclassicism and Romanticism
- ART 260 - Modernism
- ART 270 - Art of Africa, Asia, & Americas
- ART 360 - Italian Renaissance (HI 360)
- ART 470-474 - Internship in Fine Arts

Music Minor

The **Music minor** provides students with opportunities to acquire and develop skills in music theory, music performance, music history and literature. **A student electing to minor in Music must consult with the Department Chair, who assigns a music faculty member to assess the student's readiness for admission to the program.**

The Music minor requires:

- MU 101 - Theory I
- MU 102 - Theory II
- MU 103 - Aural Skills I
- MU 104 - Aural Skills II

- MU 211 - Music History: 1600-1850 or
- MU 212 - Music History: 1850 to the Present

- MU 205 - NCH World Music or
- MU 441 - History of Early Music

- Four credits of instruction on one instrument or in voice, with registration in MU 100 (Repertoire Class) in each of the same semesters
- A minimum of four credits of Music Ensemble participation

Studio Art Minor

The Studio Art minor requires:

- ART 105 - CE Drawing I

- ART 106 - CE Ceramics I or
- ART 120 - CE Sculpture I

- ART 155 - WCH Introduction to the History of Art I or
- ART 157 - WCH Introduction to the History of Art II

One 100-200 level studio art elective course:

- ART 130 - Computer Art
- ART 204 - Watercolor
- ART 205 - Painting I
- ART 206 - Ceramics II
- ART 210 - Drawing II
- ART 251 - Printmaking I

One 200-400 level art history elective course:

- ART 230 - American Art
- ART 250 - Neoclassicism and Romanticism
- ART 260 - Modernism
- ART 270 - Art of Africa, Asia, & Americas
- ART 360 - Italian Renaissance (HI 360)
- ART 470-474 - Internship in Fine Arts

Theatre Minor

The Theatre minor requires 23-24 credits:

- TH 105 - HUM Introduction to Theatre
- TH 155 - CE Stagecraft
- TH 165 - CE Basic Acting
- DA 101 - CE Introduction to Modern Dance

One course from:

- EN 104 - HUM Introduction to Literature (Drama only)
- EN 403 - Shakespearean Drama

- TH 240 - Playwriting
- TH 310 - Theatre History
- TH 340 - Modern and Contemporary Drama: From Realism to the Present

In addition, the Minor Performance track requires:

- TH 230 - Movement for the Actor or
- TH 235 - Voice for the Actor or
- TH 320 - Directing for the Theatre

- TH 360 - Performance Practicum (two semesters)

The Minor Technical track requires:

- TH 255 - CE Fundamentals of Theatrical Design or
- TH 315 - Advanced Stagecraft or
- TH 355 - Theatrical Design Studio

- TH 350 - Design and Production Practicum (two semesters)

Art Courses

ART 105 - CE Drawing I
4.00 credits. **(Creative Expression Core Course)** An introduction to the basic concepts, materials and techniques of drawing. These elements will be discussed and practiced through an intensive program of drawing from perception. The basic materials we use will consist of charcoal, ink and paper. Drawing subjects will include still life, interior space, portrait, self-portrait and the figure. The formal elements of line, shape, value, form, space, texture and composition will be explored through drawing done in class, on field trips and weekly homework assignments.

ART 106 - CE Ceramics I
4.00 credits. **(Creative Expression Core Course)** Introduction to ceramic design and history, with emphasis on fundamental construction, decorating, glazing and firing techniques, and operation of the machinery of the medium.

ART 120 - CE Sculpture I
4.00 credits. **(Creative Expression Core Course)** An exploration in the three-dimensional medium of traditional and contemporary ideas, basic problems in design, and instruction in the use of the sculptor's materials and techniques.

ART 130 - Computer Art
4.00 credits. An introductory studio/lecture course designed to increase visual literacy and vocabulary, to develop design skills and present the creative possibilities of the computer as an art making and editing tool. Historical, conceptual, technical and contemporary issues of digital imaging are explored. Spring semester.

ART 145 - CE Digital Photography (COM 145)
4.00 credits. **(Creative Expression Core Course)** This is a course in beginning digital photography. Photography will be dealt with as a photojournalistic form and an art form. No prior knowledge or experience in the arts or photography is expected. Demonstrations and supervised lab periods will be used to instruct students in basic camera and PhotoShop techniques of digital photography. Individual and group critiques/discussions of student

photography will be held. Discussion of photographic history, criticism and aesthetics will be used to help the student understand class projects and to increase appreciation of photographic traditions and contemporary trends.

ART 155 - WCH Introduction to the History of Art I
4.00 credits. **(Western Cultural Heritage Core Course)** A survey of the architecture, painting and sculpture of Western civilization from pre-history through the 14th century, including the Paleolithic and Neolithic eras, the Ancient Near East, Egypt, Ancient Greece and Rome, and the Middle Ages. Fall semester.

ART 157 - WCH Introduction to the History of Art II
4.00 credits. **(Western Cultural Heritage Core Course)** A continuation of ART 155, this course traces the development of the fine arts in Europe from the 14th to the 20th centuries, including the Renaissance, Baroque, Rococo, Neoclassical, Romantic and Modernist movements. Spring semester.

ART 204 - Watercolor
4.00 credits. Studio painting with transparent medium on paper. An introductory course emphasizing basic techniques and exploration of the expressive qualities of the medium. **Prerequisite(s):* ART 105. Fall semester, even-numbered years.

ART 205 - Painting I
4.00 credits. Studio easel painting in opaque media, with stress on pictorial organization and application of color theories. **Prerequisite(s):* ART 105. Fall semester.

ART 206 - Ceramics II
4.00 credits. An intermediate-level course with emphasis on developing and refining studio techniques and integration of form and idea. **Prerequisite(s):* ART 106. Spring semester.

ART 210 - Drawing II
4.00 credits. An intermediate-level course that stresses further conceptual, pictorial and technical development beyond Drawing I, with an emphasis on personal theme and content. **Prerequisite(s):* ART 105, or permission of the instructor. Spring semester.

ART 230 - American Art
4.00 credits. A survey of American painting, sculpture and architecture from the Colonial era through the 20th century. Issues discussed include the artists' roles in representing national identity, the wilderness, the frontier and the city, and the American contributions to photography, the moving picture, and the skyscraper. Fall semester, even-numbered years.

ART 240 - NCH History of Japanese Are and Aesthetics (JA 240)
4.00 credits. **(Non-Western Cultural Heritage Core Course)** This course introduces students to the history of the art and aesthetic sensibilities of the Japanese people from prehistoric times to the modern period. Through this course, students will develop an appreciation for the major trends in Japanese art and the historical milieu in which these were produced. Major works of art from each historical era will be studied, including architecture, sculpture, painting and pottery, as well as some of the minor arts such as gardens, calligraphy, textiles, etc. Besides understanding the making of the actual works of art, students will also understand the aesthetic principles that inform the making of these objects, such as miyabi, yugen, wabi-sabi, that are central to Japanese cultural history. Spring semester.

ART 250 - Neoclassicism and Romanticism
4.00 credits. An in-depth study of European art and culture from 1750 to 1850 that examines the role of Neoclassicism and Romanticism in promoting social and political ideals, the aesthetics of the Beautiful and the

Sublime, and cultural primitivism. **Prerequisite(s):* ART 157, or permission of the instructor. Fall semester, odd-numbered years.

ART 251 - Printmaking I
4.00 credits. Practice in the methods of relief, intaglio and monotype, and instruction in the use of the printer's machinery. **Prerequisite(s):* ART 105, or permission of the instructor. Spring semester.

ART 260 - Modernism
4.00 credits. A history of the Modernist movement in painting, sculpture, architecture, design and film from 1870 to 1945. The course traces the revolutionary theories of Impressionism, Post-Impressionism, Expressionism, Cubism, Dada, Surrealism, Futurism and Suprematism. **Prerequisite(s):* ART 157, or permission of the instructor. Spring semester, even-numbered years.

ART 270 - Art of Africa, Asia, & Americas
4.00 credits. A survey of the artistic traditions of Africa, Asia, the Pacific Islands, and the Pre-Columbian civilizations of North and South America examined within their historical context. Topics include cultural exchanges between Western and Non-Western civilizations and the impact of trade, war and colonization on indigenous artistic traditions. Spring semester, odd-numbered years.

ART 305 - Painting II
4.00 credits. An intermediate-level course with emphasis on developing and refining technique and concept. A continuation of the formal issues surrounding color and composition presented in ART 205. **Prerequisite(s):* ART 204 or ART 205. Spring semester.

ART 310 - Art Education Methodologies & Curriculum Development - Elementary
4.00 credits. This course prepares Art Certification candidates to develop a visual arts curriculum for kindergarten through sixth grade that meets Pennsylvania Standards for the Arts & Humanities. Child-centered, society-centered and discipline-based theories of art education will be discussed in the elementary school context. Students write age-appropriate lesson plans and test their effectiveness in a classroom under the supervision of a certified art teacher. They learn to manage a sage instructional environment conducive to learning for a diverse population of students, including those with special needs. **Prerequisite(s):* (ED 105 and ED 150) or (ED 106 and ED 151); SED 222; and formal acceptance into the Fine Arts - Art Education program. Register by Instructor. Fall semester.

ART 315 - Art Education Methodologies & Curriculum Development - Secondary
4.00 credits. This course prepares Art Certification candidates to develop a visual arts curriculum for the seventh through the 12th grades that meets Pennsylvania Standards for the Arts & Humanities. Students will develop age-appropriate lesson plans for middle and secondary school that include two- and three-dimensional works of art, aesthetics and multicultural traditions of art history. They learn appropriate instructional methodologies and assessment strategies for a diverse population of adolescents, including those with special needs. Methods of managing a safe instructional environment conducive to creativity will be taught. Students will have the opportunity to participate in a classroom under the supervision of a certified art teacher. **Prerequisite(s):* (ED 105 and ED 150) or (ED 106 and ED 151); SED 222; and formal acceptance into the Fine Arts - Art Education program. Register by Instructor. Spring semester

ART 320 - Sculpture II
4.00 credits. A continuation of Art 120 with further exploration of possible three-dimensional mediums and development of the methods used for traditional, modern and contemporary sculpture. **Prerequisite(s):* ART 120. Fall semester.

ART 352 - Printmaking II
4.00 credits. A continuation of ART 251 with further exploration in the methods of relief, intaglio and monotype printmaking and further instruction in the use of the printer's machinery. **Prerequisite(s):* ART 251. Spring semester, as needed.

ART 360 - Italian Renaissance (HI 360)
4.00 credits. The Italian Renaissance seminar is an in-depth cultural history of the humanist movement in Italy from 1250 to 1550 and its impact on the fine arts, literature, politics, religion, education and science. The course includes reading and discussion of primary texts by Petrarch, Dante, Boccaccio, Alberti, Machiavelli, Da Vinci, Michelangelo and Vasari. Topics include the revival of Antiquity, the discovery of Nature, Statecraft, scientific innovation and new concepts of genius and creativity. **Prerequisite(s):* ART 155, ART 157 or HI 115. Enrollment limited to sophomore status or above.

ART 370-378 - Special Topics in Fine Arts
4.00 credits. This sequence of courses permits the Department to offer courses to any group of students who expresses interest in a particular area of study that is not a regular part of the curriculum. This course is repeatable for credit.

ART 401 - Advanced Studies in Ceramics
4.00 credits. Advanced study with emphasis on conceptual, pictorial, thematic and technical development. This course is repeatable for credit for up to three semesters. Spring semester.

ART 402 - Advanced Studies in Drawing
4.00 credits. Advanced study with emphasis on conceptual, pictorial, thematic and technical development. This course is repeatable for credit for up to three semesters. Spring semester.

ART 403 - Advanced Studies in Painting
4.00 credits. Advanced study with emphasis on conceptual, pictorial, thematic and technical development. This course is repeatable for credit for up to three semesters. Spring semester.

ART 404 - Advanced Studies in Printmaking
4.00 credits. Advanced study with emphasis on conceptual, pictorial, thematic and technical development. This course is repeatable for credit for up to three semesters. Spring semester.

ART 405 - Advanced Studies in Sculpture
4.00 credits. Advanced study with emphasis on conceptual, pictorial, thematic and technical development. This course is repeatable for credit for up to three semesters. Fall semester.

ART 470-474 - Internship in Fine Arts
Variable (3.00 or 4.00) credits. An internship experience for students in one of the Fine Arts majors or minors, as recommended by the Department. Register by Instructor. This course is repeatable for credit.

ART 480-489 - Independent Study in Fine Arts
Variable credits. Individual students are provided the opportunity to pursue work in an area of major interest under the guidance of a member of the Department. **Prerequisite(s):* Approval of Department Chair and the Independent Study Committee. Register by Instructor. This course is repeatable for credit.

ART 498 - Senior Seminar and Portfolio
3.00 credits. A capstone course required by all majors that provides opportunities for advanced research and development in studio and gallery/museum related work. The course builds and enhances the resumé and introduces the practical functions, operations and workings for a career in art. Offered as needed.

Dance Courses

The Department of Fine and Performing Arts offers several dance courses as elective options or to fulfill part of the Creative Expression Core requirement. If used for Creative Expression, two courses must be completed for a total of four credits.

DA 101 - CE Introduction to Modern Dance
2.00 credits. **(Creative Expression Core Course)** An introduction to modern dance techniques and aesthetics requiring athletic, creative and cognitive participation. Course work includes physical conditioning techniques, interpretive/creative movement experiences, and modern dance technique basics. Reading, discussion, writing and viewing contemporary dance facilitate an overall appreciation of dance as an art form.

DA 102 - CE Introduction to Ballet
2.00 credits. **(Creative Expression Core Course)** A basic introduction to ballet technique, including bar, center floor and traveling combinations. Class includes development of anatomically correct alignment and dance technique, dance conditioning, spatial clarity, coordination, rhythm, use of weight, time and space. Class work will include readings, discussions, viewing of dance films, short writing assignments and performances of rehearsed dance sequences. Fall semester.

DA 103 - CE Introduction to Jazz Dance
2.00 credits. **(Creative Expression Core Course)** Jazz dance techniques emphasizing a range of styles, incorporating the Limon technique, classical show jazz and funk for the beginner. Course work includes full jazz warm-ups, classical jazz technique/terminology, floor work, conditioning and performance of dance combinations. Class also includes reading, discussions, viewing and writing about jazz dance. Spring semester.

DA 120 - Dance Improvisation and Composition
2.00 credits. This course will use improvisation as well as a variety of movement techniques to gain a better understanding of how the body functions both anatomically and kinesthetically, and to explore the capabilities of movement as an expressive art form.

DA 202 - CE Ballet II
2.00 credits. **(Creative Expression Core Course)** A continuation of ballet techniques including bar, center floor, and traveling combinations. Class includes development of increasingly complex anatomically correct alignment and dance technique, dance conditioning, spatial clarity, coordination, rhythm, and use of weight, time, and space. Class work includes readings, discussions, viewing dance films and live performances, short writing assignments, and research projects. Spring semester.

DA 203 - CE Jazz Dance II
2.00 credits. **(Creative Expression Core Course)** Jazz dance techniques emphasizing a range of styles, incorporating African, swing, classical show jazz, and hip-hop. The emphasis is on interpretation and performance of these styles on a more complex level. Course work includes jazz warm-ups, classic technique/terminology as it applies to jazz, floor work, conditioning for jazz dance and performance of dance combinations center and across the floor. Class also includes reading, discussions, viewing and writing about jazz dance. Fall semester.

Music Courses

Special Notes Regarding Applied Music Lessons and Ensembles
Students who register for applied music for credit must meet minimum standards established by the Department and should contact the Department office for a list of standards for each applied area. Students who have not attained the

level necessary for credit may study through the Preparatory Division. Students in applied music advance as rapidly as their abilities permit. They must study technical exercises and literature from various musical periods and styles.

Students may register with or without credit for the established music ensembles and for other ensembles organized under faculty supervision; ensemble registration for credit may be repeated. All students must meet the standards for attendance at rehearsals and public performances established by the faculty Directors.

Applied music lessons and certain music ensembles may be counted for the Creative Expression requirement of the Core Program if taken as letter-graded for four semesters. An additional fee is charged for applied music lessons. Fees are printed on the master course schedule.

MU 100 - Repertoire Class
0.00 credit. This class provides performance opportunities for students in applied music. It meets for one hour each week and is required for all music majors and minors who are enrolled in applied music instruction. Graded Pass/No Pass. This course is repeatable for credit.

MU 101 - Theory I
2.00 credits. This course is designed to introduce students to fundamental constructs and notational practices of music theory including clefs, meter signatures, scales/modes, key signatures, intervals, triads, and diatonic voice leading in two and four parts. **Corequisite(s):* MU 103. Fall semester.

MU 102 - Theory II
2.00 credits. This course is a continuation of Mu 101, and focuses on diatonic melodic and harmonic practices of tonal music including melodic phrase analysis, four-part diatonic harmonic progressions, and an introduction to secondary chords. **Prerequisite(s):* MU 101. **Corequisite(s):* MU 104. Spring semester.

MU 103 - Aural Skills I
1.00 credit. Music reading and ear training according to the Kodaly concept using syllables based on moveable "Do," kinesthetically reinforced by hand signs. Study and drill in rhythm will include the use of the basic beat patterns. Linear dictation including rhythmic elements. Aural skills related to theoretical analytical materials covered in MU 101. **Corequisite(s):* MU 101. Spring semester.

MU 104 - Aural Skills II
1.00 credit. A continuation of MU 103 including chromaticism, modulation, modes and more difficult rhythms and intervals, C clefs. **Prerequisite(s):* MU 103, or permission of the instructor. **Corequisite(s):* MU 102. Fall semester.

MU 105 - WCH Introduction to Western Music Literature
4.00 credits. **(Western Cultural Heritage Core Course)** Introduction to the music of the Western world, major composers and selected famous compositions, with emphasis on listening to music from the Baroque era to the present.

MU 111 - Voice Class
1.00 credit. The fundamentals of breath control, tone production, and development of vocal technique. **Open to all students. Fall semester*

MU 115 - CE Fundamentals at the Keyboard
4.00 credits. **(Creative Expression Core Course)** Basic skills in producing and reading music at the keyboard with attention to ear training, basic keyboard technique, and musicianship, as well as to sight reading. The Department's digital piano laboratory is utilized. Daily practice is required. Spring semester.

MU 117 - Functional Keyboard Skills I
1.00 credit. Basic piano skills. Required of all music majors whose first applied instrument is not piano. **Prerequisite(s):* Music major. *The Department reserves the right to offer this course as private lessons if fewer than five students are enrolled. Fall semester

MU 118 - Functional Keyboard Skills II
1.00 credit. A continuation of MU 117, including more difficult harmonic progressions and technical skills. Required of all music majors whose first applied instrument is not piano. **Prerequisite(s):* Music major. *The Department reserves the right to offer this course as private lessons if fewer than five students are enrolled. Spring semester.

MU 119 - Guitar Class I
1.00 credit. An introductory course emphasizing studies in basic chords and note reading. Course also surveys various guitar styles, the performers, music and types of guitars. *The Department reserves the right to offer this course as private lessons if fewer than five students are enrolled. Register by Instructor

MU 120 - Guitar Class II
1.00 credit. A continuation of MU 119 with emphasis on bar chords, accompaniment patterns, and note reading. Includes an introduction to classical guitar technique, history, performers and classical literature. **Prerequisite(s):* MU 119, or permission of the instructor. *The Department reserves the right to offer this course as private lessons if fewer than five students are enrolled.

MU 130 - Survey of Music Education
1.00 credit. This course is the future music educator's first exposure to the profession. Students study the history of music education in the United States and philosophical influences on the profession. Students begin to explore the role of teacher through peer-teaching episodes and discussions. Fall semester.

MU 133 - Diction for Singers
1.00 credit. An introduction to the fundamentals of singing in English, Italian, German and French with correct pronunciation, using the International Phonetic Alphabet. Fall semester.

MU 150 - Professional Seminar
1.00 credit. A weekly seminar for Music Therapy majors. Guest speakers, faculty and students present topics of mutual interest, including areas such as family, art, and dance/movement therapy; family support groups; student voice skills and voice work with individuals who have disabilities; multi-cultural counseling; and trauma therapy. Students also gain experience with structured and improvisational movement, application of music skills, career development, and professional service. *Required of Music Therapy majors each semester. This course is repeatable for credit.

MU 151 - Introduction to Music Therapy
2.00 credits. An introduction to the field of music therapy. Topics include theoretical, historical and sociological rationale supporting the field and an overview of basic clinical practice and research methods. Emphasis is on a broad knowledge of the field resulting in a generalized understanding of the current state of practice and research. Clinical observation and in-class simulations are included with emphasis given to two populations as the semester progresses. **Prerequisite(s):* Music major, or permission of the instructor. Hours: lecture 2, laboratory 1. Fall semester.

MU 152 - Music Therapy and Clinical Populations
2.00 credits. The use of music therapy within various clinical populations is emphasized. Content includes a survey of a variety of populations with whom music therapists work, focusing on the characteristics and needs of each group, general treatment approaches, and methods for incorporating music therapy. Students complete their first pre-

practicum experience, observing one clinical experience throughout the semester. **Prerequisite(s):* MU 151, and Music Therapy majors only. Hours: lecture 2, laboratory 1. Spring semester.

MU 201 - Theory III
2.00 credits. This course is a continuation of Mu 102, and focuses on chromatic melodic and harmonic practices of tonal music including applied chords, mode mixture, modulation, and chromatic predominant chords. Formal procedures will be examined including binary, ternary, variation, rondo and sonata. **Prerequisite(s):* MU 102. **Corequisite(s):* MU 203. Fall semester.

MU 202 - Theory IV
2.00 credits. This course is a continuation of Mu 201, and focuses on techniques and materials of music since 1900. This will include tonal, atonal, and serial methods and materials, rhythmic and metric practices, and post-tonal formal constructs. **Prerequisite(s):* MU 201. **Corequisite(s):* MU 204. Spring semester.

MU 203 - Aural Skills III
1.00 credit. Continued emphasis on reading and dictation skills with concentration on modulation and chromaticism using some 20th-century material. C clefs. **Prerequisite(s):* MU 104. **Corequisite(s):* MU 201. Spring semester.

MU 204 - Aural Skills IV
1.00 credit. A continuation of MU 203 with concentration on reading atonal melodies and 20th-century material. **Prerequisite(s):* MU 203. **Corequisite(s):* MU 202. Fall semester.

MU 205 - NCH World Music
4.00 credits. **(Non-Western Cultural Heritage Core Course)** Music indigenous to eight non-Western geographic regions of the world is studied and compared in terms of tonal and rhythmic attributes, and as an approach to promoting sociocultural awareness.

MU 211 - Music History: 1600-1850
4.00 credits. A broad study of the technical, stylistic and social/historical developments related to Western music and musicians beginning around the year 1600, toward the end of the Renaissance Era, and continuing to the end of the 18th century. **Prerequisite(s):* MU 102, or permission of the instructor. Fall semester.

MU 212 - Music History: 1850 to the Present
4.00 credits. A broad study of the technical, stylistic and social/historical developments related to Western music and musicians beginning around the year 1850, and continuing to the present. **Prerequisite(s):* MU 102, or permission of the instructor. Spring semester.

MU 217 - Functional Keyboard Skills III
1.00 credit. Scale harmonizations, modal harmonizations, figured bass realization, and transposition of simple instrumental melodic lines. **Prerequisite(s):* MU 118, or permission of the instructor. Fall semester.

MU 218 - Functional Keyboard Skills IV
1.00 credit. A continuation of MU 217 involving further scale harmonizations, modulations, transpositions and emphasizing a variety of accompaniment styles. **Prerequisite(s):* MU 217. Spring semester.

MU 230 - Music Teaching and Learning
3.00 credits. Students discover how children learn music and the role of music learning theory in facilitating that process. The future music educator is also introduced to the process of curriculum development and the assessment of music teaching and learning. Model curricula based on national and state standards are reviewed. Students will develop the ability to assess aptitudes, backgrounds, and orientations of students and subject content and plan

lessons that meet assessed needs. Peer teaching and field experiences will be an integral part of the course experience. Fall semester.

MU 231 - Brass Class
1.00 credit. This course will provide an overview of pedagogy for all brass instruments. Methods of tone production, fingerings or positions, care and repair, and methods and materials for teaching all brass instruments will be explored. Emphasis this semester will be on trumpet/cornet and trombone. *The Department reserves the right to offer this course as private lessons if fewer than five students are enrolled. Fall semester

MU 232 - Woodwind Class
1.00 credit. 1.00 credit. Methods of tone production, fingerings, maintenance, care and repair, and methods and materials for teaching flute, oboe, clarinet, bassoon and saxophone. *The Department reserves the right to offer this course as private lessons if fewer than five students are enrolled. Fall semester

MU 234 - Percussion Class
1.00 credit. Methods of tone production, care and repair, and methods and materials for teaching snare drum, cymbals, timpani and other percussion instruments. *The Department reserves the right to offer this course as private lessons if fewer than five students are enrolled. Spring semester

MU 236 - Percussion for Music Therapy
1.00 credit. Students learn to play, teach and care for snare drum, trap set, barrel type drums, frame drums, and auxiliary percussion instruments. Individual and small ensemble performances are an integral part of this course and discussions about incorporating the skills and concepts into music therapy sessions. Register by Instructor. Spring semester.

MU 237 - String Class
1.00 credit. Method of tone production, fingerings, care and repair, and methods and materials for teaching violin and cello in individual and class settings. *The Department reserves the right to offer this course as private lessons if fewer than five students are enrolled. Fall semester

MU 239 - Vocal Pedagogy
1.00 credit. An introduction to the fundamentals of teaching singing. Students examine the physiology of the voice, vocal sound production, care of the voice, teaching techniques and other related topics. Spring semester.

MU 240 - Conducting Laboratory
0.00 credit. Students become familiar with standard instrumental and choral repertoire and observe advanced conducting techniques by performing in a laboratory ensemble for MU 322 (Conducting II). Graded Pass/No Pass. Spring semester.

MU 241 - Music Therapy Methods and Techniques I
4.00 credits. The development of music and non-music skills and concepts related to conducting entry-level music therapy sessions. Emphasis is on the development and application of assessment and observation skills, treatment planning and implementation, leadership, documentation and music performance skills in therapeutic settings. Includes lecture and clinical experiences. **Prerequisite(s):* MU 152. Fall semester.

MU 245 - CE Introduction to Songwriting
4.00 credits. (**Creative Expression Core Course)** Students will compose original songs, with an emphasis on understanding how to manipulate the elements of music to express a text. Songs from popular, jazz and classical styles will be presented as models for study and analysis. Knowledge of music notation (ability to read pitch and rhythm notation in treble clef, and read guitar or lead sheet chord symbols) and the ability to sing, or play guitar or piano are required. Students will sing and accompany their own songs. May term only.

MU 253 - Music Therapy Methods and Techniques II
3.00 credits. A continuation of MU 241 involving the further development of non-music and music skills and concepts related to conducting entry-level music therapy sessions. Includes the study of behavioral techniques, beginning counseling interaction skills, and other music and non-music methods and techniques employed within a music therapist's clinical work. **Prerequisite(s):* MU 241. Hours: lecture 2, laboratory 1. Spring semester.

MU 254 - Practical Experiences I: Music Therapy
1.00 credit. Supervised field experiences (observation and participation) in an approved clinical facility. A minimum of 13 planned sessions involving client contact and weekly processing with a supervisor are required for each clinical experience. During this practicum, students will achieve entry-level professional, preparation, delivery, and documentation skills related to the practice of music therapy. **Prerequisite(s):* MU 241 and a Pass on the pre-clinical proficiency assignment and Music Therapy majors only.

MU 255 - Arranging and Composing for Clinic
2.00 credits. Arranging and composing music for a range of music therapy situations is covered with emphasis placed on use of nonsymphonic instruments and voice in various therapeutic contexts. **Prerequisite(s):* MU 102. Spring semester.

MU 268 - CE Voice
1.00 credit. **(Creative Expression Core Course)** Applied Music Lesson. Fulfills the Creative Expression requirement of the Core if taken for four semesters (or total of four credits when combined with other eligible applied music lessons or ensembles). This course is repeatable for credit.

MU 269 - CE Piano
1.00 credit. **(Creative Expression Core Course)** Applied Music Lesson. Fulfills the Creative Expression requirement of the Core if taken for four semesters (or total of four credits when combined with other eligible applied music lessons or ensembles). *Music majors whose principal instrument is NOT piano or organ must enroll in MU 117 before MU 269. This course is repeatable for credit.

MU 270 - CE Organ
1.00 credit. **(Creative Expression Core Course)** Applied Music Lesson. Fulfills the Creative Expression requirement of the Core if taken for four semesters (or total of four credits when combined with other eligible applied music lessons or ensembles). This course is repeatable for credit.

MU 271 - CE Violin
1.00 credit. **(Creative Expression Core Course)** Applied Music Lesson. Fulfills the Creative Expression requirement of the Core if taken for four semesters (or total of four credits when combined with other eligible applied music lessons or ensembles). This course is repeatable for credit.

MU 272 - CE Viola
1.00 credit. **(Creative Expression Core Course)** Applied Music Lesson. Fulfills the Creative Expression requirement of the Core if taken for four semesters (or total of four credits when combined with other eligible applied music lessons or ensembles). This course is repeatable for credit.

MU 273 - CE Cello
1.00 credit. **(Creative Expression Core Course)** Applied Music Lesson. Fulfills the Creative Expression requirement of the Core if taken for four semesters (or total of four credits when combined with other eligible applied music lessons or ensembles). This course is repeatable for credit.

MU 274 - CE String Bass
1.00 credit. **(Creative Expression Core Course)** Applied Music Lesson. Fulfills the Creative Expression requirement of the Core if taken for four semesters (or total of four credits when combined with other eligible applied music lessons or ensembles). This course is repeatable for credit.

MU 275 - CE Guitar
1.00 credit. **(Creative Expression Core Course)** Applied Music Lesson. Fulfills the Creative Expression requirement of the Core if taken for four semesters (or total of four credits when combined with other eligible applied music lessons or ensembles). This course is repeatable for credit.

MU 276 - CE Flute
1.00 credit. **(Creative Expression Core Course)** Applied Music Lesson. Fulfills the Creative Expression requirement of the Core if taken for four semesters (or total of four credits when combined with other eligible applied music lessons or ensembles). This course is repeatable for credit.

MU 277 - CE Clarinet
1.00 credit. **(Creative Expression Core Course)** Applied Music Lesson. Fulfills the Creative Expression requirement of the Core if taken for four semesters (or total of four credits when combined with other eligible applied music lessons or ensembles). This course is repeatable for credit.

MU 278 - CE Oboe
1.00 credit. **(Creative Expression Core Course)** Applied Music Lesson. Fulfills the Creative Expression requirement of the Core if taken for four semesters (or total of four credits when combined with other eligible applied music lessons or ensembles). This course is repeatable for credit.

MU 279 - CE Bassoon
1.00 credit. **(Creative Expression Core Course)** Applied Music Lesson. Fulfills the Creative Expression requirement of the Core if taken for four semesters (or total of four credits when combined with other eligible applied music lessons or ensembles). This course is repeatable for credit.

MU 280 - CE Saxophone
1.00 credit. **(Creative Expression Core Course)** Applied Music Lesson. Fulfills the Creative Expression requirement of the Core if taken for four semesters (or total of four credits when combined with other eligible applied music lessons or ensembles). This course is repeatable for credit.

MU 281 - CE Trumpet
1.00 credit. **(Creative Expression Core Course)** Applied Music Lesson. Fulfills the Creative Expression requirement of the Core if taken for four semesters (or total of four credits when combined with other eligible applied music lessons or ensembles). This course is repeatable for credit.

MU 282 - CE French Horn
1.00 credit. **(Creative Expression Core Course)** Applied Music Lesson. Fulfills the Creative Expression requirement of the Core if taken for four semesters (or total of four credits when combined with other eligible applied music lessons or ensembles). This course is repeatable for credit.

MU 283 - CE Trombone
1.00 credit. **(Creative Expression Core Course)** Applied Music Lesson. Fulfills the Creative Expression requirement of the Core if taken for four semesters (or total of four credits when combined with other eligible applied music lessons or ensembles). This course is repeatable for credit.

MU 284 - CE Baritone Horn
1.00 credit. **(Creative Expression Core Course)** Applied Music Lesson. Fulfills the Creative Expression requirement of the Core if taken for four semesters (or total of four credits when combined with other eligible applied music lessons or ensembles). This course is repeatable for credit.

MU 285 - CE Tuba
1.00 credit. **(Creative Expression Core Course)** Applied Music Lesson. Fulfills the Creative Expression requirement of the Core if taken for four semesters (or total of four credits when combined with other eligible applied music lessons or ensembles). This course is repeatable for credit.

MU 286 - CE Percussion
1.00 credit. **(Creative Expression Core Course)** Applied Music Lesson. Fulfills the Creative Expression requirement of the Core if taken for four semesters (or total of four credits when combined with other eligible applied music lessons or ensembles). This course is repeatable for credit.

MU 287 - CE Harp
1.00 credit. **(Creative Expression Core Course)** Applied Music Lesson. Fulfills the Creative Expression requirement of the Core if taken for four semesters (or total of four credits when combined with other eligible applied music lessons or ensembles). This course is repeatable for credit.

MU 290 - Composition
1.00 credit. Development of skills in composing. Emphasis on creation of original works for a variety of media with performance as final product. **Prerequisite(s):* MU 101. For enrollment beyond two terms, MU 419 is required. Register by Instructor. This course is repeatable for credit.

MU 321 - Conducting I
2.00 credits. Instruction in the fundamentals of conducting. Topics include conducting techniques, instrumental and choral methods and problems, score reading, and interpretation. **Prerequisite(s):* MU 202 and MU 212, or permission of the instructor. Fall semester.

MU 322 - Conducting II
2.00 credits. A continuation of MU 321. **Prerequisite(s):* MU 321. Spring semester.

MU 330 - General Music Methods and Materials
2.00 credits. Preparation for students to teach elementary, middle and high school general music classes. Students are expected to plan and deliver general music lessons, interpret and apply contemporary music education pedagogies, and develop evaluative techniques and abilities that can be applied to the assessment of student progress and curriculum objectives. **Corequisite(s):* MU 331. Fall semester.

MU 331 - General Music Field Experience
1.00 credit. Practical application of the skills learned in MU 330. Observations and field placement in a general music setting is required. **Corequisite(s):* MU 330. Fall semester.

MU 332 - Music Technology
1.00 credit. Students develop and practice skills in music technology and technology needed for admittance to the education department. Students review current trends in music Computer Aided Instruction, develop skills in the use of audio- and video-recording equipment, and gain expertise in the use of various music production-related software and computer databases. Register by Instructor.

MU 333 - Choral Music Methods and Materials
2.00 credits. Students learn to select, analyze and prepare appropriate choral literature. Future choral directors are expected to demonstrate proper vocal technique, appropriate strategies for guiding singers in a choral rehearsal and knowledge of administrative activities specific to choral directors. **Corequisite(s):* MU 334. Spring semester.

MU 334 - Choral Music Field Experience Laboratory
1.00 credit. Practical application of the skills learned in MU 333. Observations and field placement in a secondary choral music setting will be required. **Corequisite(s):* MU 333. Spring semester.

MU 351 - Clinical Improvisation
2.00 credits. Skills in musical improvisation within the therapeutic setting are developed. The major focus of the course is vocal and piano improvisation with some emphasis on guitar and percussion improvisation. **Prerequisite(s):* MU 218 and Music Therapy majors only.

MU 355 - Practical Experiences II: Music Therapy
1.00 credit. Supervised field experiences (observation and participation) in an approved clinical facility. A minimum of 13 planned sessions involving client contact and weekly processing with a supervisor are required for each clinical experience. During this practicum, students will apply previously learned music therapy skills to a new population and continue to develop their professional, preparation, delivery, and documentation skills related to the practice of music therapy. **Prerequisite(s):* MU 253 and MU 254.

MU 356 - Practical Experiences III: Music Therapy
1.00 credit. Supervised field experiences (observation and participation) in an approved clinical facility. A minimum of 13 planned sessions involving client contact and weekly processing with a supervisor are required for each clinical experience. During this practicum, students will apply previously learned music therapy skills to a new population. They will become more independent in the application of music therapy skills related to the preparation, delivery, and documentation of clinical work. **Prerequisite(s):* MU 355.

MU 357 - Music Therapy Methods and Techniques III
3.00 credits. A study of various philosophies and practices of music therapy as related to the implementation of music therapy within specific clinical populations and preparation for clinical internship. Emphases are on the integration of the knowledge and skills associated with the practice of music therapy, verbal interaction skills, and interviewing for internships. **Prerequisite(s):* MU 253 and MU 254. Fall semester.

MU 358 - Psychology of Music and Research Methods I
3.00 credits. Beginning with a brief introduction to the research literature that the students read and an overview of the research process, the course then examines the literature on various topics related to acoustics and the psychology of music while discussing how the information applies to the practice of music therapy. Students review the literature on topics related to their chosen future research study, which will be conducted the following semester. **Prerequisite(s):* MU 253 and MU 254, MA 251, BIO 101 and BIO 201. Spring semester.

MU 360A - Chamber Music
0.50 credit. General chamber music course from which groups such as the Brass Chamber Ensemble (B), Woodwind Ensemble (C), Flute Choir (E), Percussion Ensemble (F), Piano Ensemble (P), String Ensemble (S), Vocal Ensemble (V), and Wind Ensemble (W) will be formed as need arises. Graded Pass/No Pass. This course is repeatable for credit.

MU 360B - Chamber Ensemble Brass
0.50 credit. General chamber music course from which groups such as Brass Ensemble, Wind Ensemble, String Ensemble, Woodwind Ensemble, Chorale, Piano Trio, and Piano Ensemble will be formed as need arises. Graded Pass/No Pass. This course is repeatable for credit.

MU 360C - Woodwind Ensemble
0.50 credit. General chamber music course from which groups such as Brass Ensemble, Wind Ensemble, String Ensemble, Woodwind Ensemble, Chorale, Piano Trio, and Piano Ensemble will be formed as need arises. Graded Pass/No Pass. This course is repeatable for credit.

MU 360E - Flute Choir
0.50 credit. General chamber music course from which groups such as Brass Ensemble, Wind Ensemble, String Ensemble, Woodwind Ensemble, Chorale, Piano Trio, and Piano Ensemble will be formed as need arises. Graded Pass/No Pass. This course is repeatable for credit.

MU 360F - Percussion Ensemble
0.50 credit. General chamber music course from which groups such as Brass Ensemble, Wind Ensemble, String Ensemble, Woodwind Ensemble, Chorale, Piano Trio, and Piano Ensemble will be formed as need arises. Graded Pass/No Pass. This course is repeatable for credit.

MU 360P - Piano Ensemble
0.50 credit. General chamber music course from which groups such as Brass Ensemble, Wind Ensemble, String Ensemble, Woodwind Ensemble, Chorale, Piano Trio, and Piano Ensemble will be formed as need arises. Graded Pass/No Pass. This course is repeatable for credit.

MU 360S - String Ensemble
0.50 credit. General chamber music course from which groups such as Brass Ensemble, Wind Ensemble, String Ensemble, Woodwind Ensemble, Chorale, Piano Trio, and Piano Ensemble will be formed as need arises. Graded Pass/No Pass. This course is repeatable for credit.

MU 360V - Vocal Ensemble
0.50 credit. General chamber music course from which groups such as Brass Ensemble, Wind Ensemble, String Ensemble, Woodwind Ensemble, Chorale, Piano Trio, and Piano Ensemble will be formed as need arises. Graded Pass/No Pass. This course is repeatable for credit.

MU 360W - Wind Ensemble
0.50 credit. General chamber music course from which groups such as Brass Ensemble, Wind Ensemble, String Ensemble, Woodwind Ensemble, Chorale, Piano Trio, and Piano Ensemble will be formed as need arises. Graded Pass/No Pass. This course is repeatable for credit.

MU 361 - CE Concert Choir
1.00 credit. **(Creative Expression Core Course)** Acceptance based upon auditions by appointment. Several performances on campus each year, and this group performs in churches and schools on its annual tour. Fulfills the Creative Expression requirement of the Core if taken for four semesters (or total of four credits when combined with other eligible applied music lessons or ensembles). This course is repeatable for credit.

MU 363 - CE Community Chorus
1.00 credit. **(Creative Expression Core Course)** Vocal ensemble open to any member of the student body and local community without audition. Literature performed will include works from the standard choral repertoire, contemporary selections, and music of varying cultures and periods. Fulfills the Creative Expression requirement of the Core if taken for four semesters (or total of four credits when combined with other eligible applied music lessons or ensembles). This course is repeatable for credit.

MU 364 - CE Women's Chorus
1.00 credit. **(Creative Expression Core Course)** Vocal ensemble open to female members of the student body by audition. Literature performed will include works from the standard choral repertoire, contemporary selections, and

music of varying cultures and periods. Fulfills the Creative Expression requirement of the Core if taken for four semesters (or total of four credits when combined with other eligible applied music lessons or ensembles). This course is repeatable for credit.

MU 365 - CE Orchestra
1.00 credit. **(Creative Expression Core Course)** Open to all qualified students; acceptance subject to approval by Director. Presentation of several concerts during the year. String, chamber and full orchestra music is performed. Fulfills the Creative Expression requirement of the Core if taken for four semesters (or total of four credits when combined with other eligible applied music lessons or ensembles). *Prerequisite for winds and percussion: permission of the instructor. This course is repeatable for credit.

MU 368 - Jazz Band
0.50 credit. The jazz band is open to all qualified students who play instruments which constitute a traditional big band. Acceptance is subject to the approval of the director. The jazz band performs at least one concert per semester on campus and may perform off-campus concerts. This ensemble typically goes on tour with the concert choir in the spring term. The band rehearses once weekly for two hours. Graded Pass/No Pass. This course is repeatable for credit.

MU 369 - CE Symphonic Band
1.00 credit. **(Creative Expression Core Course)** Open to all qualified students; acceptance subject to approval by Director. Performances include the annual winter and spring concerts and a number of off-campus appearances. Fulfills the Creative Expression requirement of the Core if taken for four semesters (or total of four credits when combined with other eligible applied music lessons or ensembles). This course is repeatable for credit.

MU 370-378 - Special Topics in Music
Variable credit. This sequence of courses permits the Department to offer courses that are not part of the regular curriculum. This course is repeatable for credit.

MU 419 - Counterpoint
2.00 credits. A study of contrapuntal techniques of the 16th through 20th centuries through representative composers and original compositions. **Prerequisite(s):* or **Corequisite(s)*: MU 204. Spring semester.

MU 431 - Piano Methods and Materials I
2.00 credits. Modern methods in teaching piano to children, youth and adults. Course includes a survey of teaching materials for various stages of progress, teaching demonstrations, and experience. **Prerequisite(s):* Two semesters of MU 269.

MU 432 - Piano Methods and Materials II
2.00 credits. A continuation of MU 431. **Prerequisite(s):* MU 431.

MU 433 - Instrumental Music Methods and Materials
2.00 credits. The development of instrumental teaching skills for individual, small group and ensemble instruction will be the focus of this course. Philosophical considerations related to the role of instrumental music education and applications of Music Learning Theory provides the framework for this course. Selection of appropriate method book materials, ensemble literature and materials, rehearsal planning and techniques, and the development of a curricular approach to performance ensembles will be emphasized. **Corequisite(s):* MU 434. Fall semester.

MU 434 - Instrumental Music Methods Field Experience
1.00 credit. This course will provide practical application of the skills learned in MU 433. Observation and field placement in an instrumental music setting will be required. **Corequisite(s):* MU 433. Fall semester.

MU 440 - Arranging
2.00 credits. Arranging and transcribing music for large and small ensembles. Class performance of student works is combined with a study of the characteristics of the human voice and each standard orchestral instrument/instrumental group. **Prerequisite(s):* MU 204 and MU 221 .

MU 441 - History of Early Music
2.00 credits. A broad chronological study of the technical, stylistic and social/historical developments related to Western music and musicians, beginning with the music of the ancient Greek civilizations and especially emphasizing the development of polyphony until about the year 1600. **Prerequisite(s):* MU 102, or permission of the instructor. Fall semester.

MU 454 - Psychology of Music and Research Methods II
3.00 credits. A continuation of MU 358. Students will develop a more specific understanding of the concepts involved in conducting, reading and evaluating research in music therapy. Students will apply the concepts to the studies they designed the previous semester while conducting these studies. A few topics related to acoustics and the psychology of music also are included. **Prerequisite(s):* MU 358. Fall semester.

MU 457 - Practical Experiences IV: Music Therapy
1.00 credit. Supervised field experiences (observation and participation) in an approved clinical facility. A minimum of 13 planned sessions involving client contact and weekly processing with a supervisor are required for each clinical experience. During this practicum, students will apply previously learned music therapy skills to a new population. They will further develop their independence in the application of music therapy skills related to the preparation, delivery, and documentation of clinical work. **Prerequisite(s):* MU 356 and MU 357.

MU 458 - Practical Experiences V: Music Therapy
1.00 credit. Supervised field experiences (observation and participation) in an approved clinical facility. A minimum of 13 planned sessions involving client contact and weekly processing with a supervisor are required for each clinical experience. During this practicum, students will apply previously learned music therapy skills to a new population. By the end of this practicum, they will display a level of independence in music therapy skills related to the preparation, delivery, and documentation of clinical work that demonstrates readiness for the clinical internship. **Prerequisite(s):* MU 457.

MU 459 - Music Therapy Methods and Techniques IV
3.00 credits. A study of various philosophies, theories and practices as related to the implementation of treatment within music therapy. Emphasis is on the integration of the theories and concepts/skills associated with various music and non-music methods and techniques to the practice of music therapy, as well as professional employment issues. **Prerequisite(s):* MU 357.

MU 471 - Professional Internship in Music Education
12.00 credits. Teaching experience and observation in elementary and secondary music classes. Instrumental and vocal emphases vary with student strengths and needs. **Corequisite(s):* MU 491 and ED 497. Graded Pass/No Pass. Register by Instructor.

MU 478 - Non-Roster Professional Internship in Music Therapy
0.00 credit. A supervised practicum experience of varying length completed at a College-approved facility. The student is supervised by a board-certified faculty member from the Music Therapy program and an on-site board-certified music therapist. A minimum of 1,200 hours of clinical training is required at the completion of the internship. **Prerequisite(s):* Completion of all other Music Therapy degree requirements. Offered as needed.

MU 479 - Professional Internship in Music Therapy
0.00 credit. An approximately six-month, supervised practical experience with a board-certified registered music therapist in an AMTA-approved facility. Total number of clinical training hours must equal 1,200. Taken only after completion of all other Music Therapy degree requirements. Graded Pass/No Pass. Register by Instructor. This course is repeatable for credit.

MU 480-489 - Independent Study in Music
Variable credit. Individual students are offered opportunities for musical composition, arranging, performance or research under faculty supervision. **Prerequisite(s):* Approval of Department Chair and Independent Study Committee. Register by Instructor. This course is repeatable for credit.

MU 490 - Independent Research in Music
Variable (1.00 to 4.00) credit(s). An independent research project in music under the close supervision of a faculty member. Topics for research are chosen in an area of interest to both persons. Register by Instructor. This course is repeatable for credit.

MU 491 - Student Teaching Seminar
0.00 credit. A forum for students to discuss and analyze issues pertinent to their current student-teaching experience and those relevant to their future profession. Interview techniques, Pennsylvania State Department of Education requirements and other topics proposed by the class will comprise the course content. **Corequisite(s):* MU 471 and ED 497. Register by Instructor.

MU 495 - Seminar in Musicology
2.00 credits. A capstone course for all Music majors offering experience in the techniques of research about music, including bibliography, analysis of materials, and communication of conclusions. A substantial research project is required. **Prerequisite(s):* Junior standing in music; completion of all music courses in basic musicianship: MU 122 , MU 204, MU 218 and MU 221 . Fall semester.

Theater Courses

TH 105 - HUM Introduction to Theatre
4.00 credits. **(Humanities Core Course)** An introduction to the various interrelated arts and disciplines that make up theatre performance and production, such as acting, playwriting, directing and design. Emphasis is on history, literature and theory as realized in performance. Texts provide a common language for discussion, and further support is drawn from videos, script analysis and play attendance.

TH 155 - CE Stagecraft
4.00 credits. **(Creative Expression Core Course)** An introductory course in the technical aspects of theatrical production, with emphasis placed on scenic and lighting technology. Students develop an understanding of basic and intermediate-level production techniques while becoming familiar with the tools, hardware and theory related to contemporary theatrical practice. Multiple hands-on projects focusing on theatrical design, carpentry, rigging, painting, electrical wiring and properties artistry afford opportunities to link creative, cognitive reasoning with acquired skills. A weekly two-hour lab is required. **Corequisite(s):* TH 155L. Fall semester.

TH 165 - CE Basic Acting
4.00 credits. **(Creative Expression Core Course)** Theory and practice of the art and craft of the stage actor are addressed. Skills are developed in voice, body movement, script analysis, and style and theory are examined. Students participate in projects requiring the memorization, creation and presentation of scenes.

TH 210 - NCH World Cinema, World War II to the 21st Century
4.00 credits. **(Non-Western Cultural Heritage Core Course)** This course will examine feature films from countries other than the United States, from 1945 to the present day, so that students can be exposed to unfamiliar film traditions and thus expand their cultural literacy in world cinema; examine the films as artifacts of their respective cultures; learn about the cross-currents of influence between film, popular culture, and history in the post-World War II period; and develop a greater critical aesthetic appreciation of film to apply to their own viewing.

TH 230 - Movement for the Actor
4.00 credits. This course is designed to expand awareness of the actor's body as an effective, clear means of communicating character and given circumstances, of cultivating the ability of the body to be affected by emotion and ideas, and of mining its ability to put objectives into active play. Experiential exercises develop the body's readiness and expressiveness. **Prerequisite(s):* TH 165. Register by Instructor. Alternate spring semesters

TH 235 - Voice for the Actor
3.00 credits. Study and exercises in vocal production and delivery, including breathing, abdominal support, muscularity, inflection, and resonance, to develop clear articulation, projection, and otherwise effective speech in the theatre; and the application of those skills to the interpretation and performance of plays, including phonetics, analysis of verse and prose, rhyme, figures of speech, and scansion for meter. We will focus on speaking Shakespeare's works, but will include material from other dramatic writers. **Prerequisite(s):* TH 165. Register by Instructor. Alternate spring semesters

TH 240 - Playwriting
3.00 credits. The study of the tools and techniques of creative writing for the theatre. Students will develop scripts that may receive staged readings or short play festival productions. Register by Instructor. Alternate fall semesters.

TH 255 - CE Fundamentals of Theatrical Design
4.00 credits. **(Creative Expression Core Course)** This course offers an introduction to the four major areas of theatrical design: scenery, lighting, costume and sound. Using theatrical texts as a springboard for the development of theoretical design work, students develop their own aesthetic sensibilities and the visual and verbal skills to express themselves in terms of basic theatrical design. While this course utilizes hands-on artistic techniques, a thinking, curious mind is the primary tool. Alternate spring semesters.

TH 260 - From Shakespeare to Sitcom
3.00 credits. This course is comprised of a 14-day international trip to Italy. It is an investigation into the society, customs, and culture of the Italian Renaissance (1450-1650) and the ways in which it contributed to the development of that era's popular entertainment -- the Italian theater form "*Commedia dell'Arte*". In turn, we examine how commedia has given rise to modern forms of Western popular entertainment. This course is open to all majors upon approval by the instructor.

TH 310 - Theatre History
4.00 credits. A survey of world theatre from its roots in ritual and storytelling up to and including the present day. The course will focus on non-dramatic aspects of the theatre: acting, directing, design, architecture, audience, management, governmental control, and the historical and social contexts of the various periods in which theatre has thrived and which the theatre has reflected. **Prerequisite(s):* TH 105. Alternate spring semesters.

TH 315 - Advanced Stagecraft
3.00 credits. The study and application of the more advanced techniques, skills, and methods used in theatrical production. Through in-class instruction and project work, students will be exposed to a variety of construction methods and theatrical effects. This course will focus primarily on prop construction, theatrical rigging, metalwork/welding, and scenery movement. **Prerequisite(s):* TH 155. Alternate spring semesters.

TH 320 - Directing for the Theatre
4.00 credits. A focus on the technique and practice of directing for the theatre. Students analyze dramatic literature with respect to historical context, structure and performance conceptualization. Directing methods are explored, as are the use of space, staging, rhythm, tempo and pace. Students put theory into practice by directing a short play at the end of the semester. **Prerequisite(s):* TH 105 and TH 165. Register by Instructor. Alternate fall semesters

TH 340 - Modern and Contemporary Drama: From Realism to the Present
3.00 credits. A study in comparative drama and theory of the modern era, from the 19th century beginnings of realism, through expressionism and the theatre of the absurd, and to the eclectic work of the contemporary theatre. **Prerequisite(s):* TH 105. Alternate spring semesters.

TH 350 - Design and Production Practicum
1.00 credit. An opportunity for students to earn credit for significant design and production work. Students work on projects ranging from lighting, costume or scenic design to stage management, master electrician or public relations. This course is repeatable for credit.

TH 355 - Theatrical Design Studio
3.00 credits. This primary design component addresses the elements of design and composition in the areas of scenery and lighting. Projects in drafting, rendering and model construction afford students opportunity to test theory with practice. Each student completes a final project in one design area. **Prerequisite(s):* TH 155 or TH 255, or permission of the instructor. Alternate fall semesters

TH 360 - Performance Practicum
1.00 credit. An opportunity for students to earn credit for significant performance work. Students work under the supervision of a faculty or student director for one of the program's productions. This course is repeatable for credit.

TH 370-378 - Special Topics in Theatre
Variable credit. This sequence of courses permits the Department to offer courses that are not part of the regular curriculum. This course is repeatable for credit.

TH 405 - Senior Project in Theatre
2.00 credits. The capstone course for the major, the project is intended to be completed in the student's area of concentration. It can include a realized project in acting, design, direction, playwriting or management; or a project in historical research and writing. Projects must be proposed and accepted the semester before the student's senior year. **Prerequisite(s):* All theatre core course work and 50 percent of concentration course work must be completed. Register by Instructor. Offered as needed

TH 470-474 - Internship in Theatre
Variable (1.00 to 4.00) credit(s). An internship experience for students in a theatrical setting, for theatre majors or minors, as approved by the theatre faculty. Register by Instructor. This course is repeatable for credit.

TH 480-489 - Independent Study in Theatre
Variable credit. Independent Study in Theatre. **Prerequisite(s):* Permission of Program Director and Independent Study Committee. Register by Instructor. This course is repeatable for credit.

TH 490 - Independent Research in Theatre
Variable (1.00 to 4.00) credit(s). An independent research project in theatre under the close supervision of a faculty member. Topics for research are chosen in an area of interest to both persons. Register by Instructor. This course is repeatable for credit.

Department of History

Brown (Chair), G. Ricci, Kenley, Newsome, Strikwerda, Traverso, Winpenny

For more information, please visit the Department's website or check your course syllabi, which are available through the course instructor or at the High Library.

The study of history is a valuable component of a liberal arts education, as well as a vital link to our individual and collective heritage. Historians seek to identify those events and individuals in the past that inform and shape contemporary society. Through an understanding of how civilizations, cultures and institutions have formed and evolved over time, we are able to better comprehend ourselves and the general human condition. "History teaches us so nearly," an English historian once remarked. "It is so deep a question of life and death, that we are bound to find our way through it, and to owe our insight to ourselves."

The Department's program is designed to prepare students for further study in a variety of disciplines, including history, law, library science, museum studies, government and theology. History is also an excellent preparation for careers in education, business and government services.

Majors Offered

The Department offers a major in **History** and participates in the **Social Studies Education Program** that prepares students to teach in secondary schools.

Combinations with other programs that allow the student to major in history and to pursue training for other careers are possible. For example, a student may major in history and also take a recommended program of courses in business. Consult with members of the Department for other options in combination with communications, political science or other program areas.

Minors Offered

The Department offers a **History minor**.

Honors in the Discipline

The Department of History participates in the College Honors in the Discipline Program. For guidelines, students should consult the Department Chair.

History (B.A.)

Student Learning Outcomes for History:

Students will be able to:

- Draw effectively on primary and secondary sources to analyze specific historical developments in the U.S., Europe, and/or non-western world.
- Analyze major issues in historiography.

- Analyze historical events and trends, demonstrating a broad knowledge and some specialized understanding of the diverse historical pasts of the U.S., Europe, and/or non-western world.
- Communicate effectively in writing, as appropriate to the discipline of history.
- Communicate effectively orally, as appropriate to the discipline of history.

The History major requires 48 credits of course work:

Surveys - One course must be taken in each of the three following areas of emphasis

- HI 101 - HUM United States History to 1877 or
- HI 102 - HUM United States History Since 1877

- HI 111 - NCH History of Pre-Modern Asia or
- HI 112 - NCH History of Modern Asia

- HI 114 - WCH Western Civilization I or
- HI 115 - WCH Western Civilization II

Electives - No more than one may be at the 100-level

- Five History electives

Upper Division - All courses must be at the 300-level

- One U.S. History course
- One European History course
- One Non-Western History course

Capstone - Enrollment limited to seniors

- HI 450 - Topics in Historiography

History Minor

The History minor requires successful completion of six courses:

One course must be taken in two of the following three groups:

- HI 101 - HUM United States History to 1877 or
- HI 102 - HUM United States History Since 1877

- HI 111 - NCH History of Pre-Modern Asia or
- HI 112 - NCH History of Modern Asia

- HI 114 - WCH Western Civilization I or

- HI 115 - WCH Western Civilization II

Four History electives:

No more than one course may be at the 100-level. At least two courses must be at the 300-level. Enrollment for 300- and 400-level courses limited to students with sophomore status or above.

History Courses

HI 101 - HUM United States History to 1877
4.00 credits. **(Humanities Core Course)** This course traces the foundations of early American history from the Age of Discovery through the Civil War era. Included will be examinations of colonial society, the causes and consequences of the American Revolution, the rise of mass democracy, and the growing sectionalism that tore the nation apart in 1861.

HI 102 - HUM United States History Since 1877
4.00 credits. **(Humanities Core Course)** This course examines the history of the United States from America's late nineteenth century industrial revolution to 9/11 and its aftermath. Emphasis will be on the nation's rise as an economic and military superpower, its political development, and its multicultural identity.

HI 111 - NCH History of Pre-Modern Asia
4.00 credits. **(Non-Western Cultural Heritage Core Course)** This course examines the history of Asia up to 1500. There will be a focus on cross-cultural contacts within Asia and with the larger world. By semester's end, students will have a factual understanding of Asia's role in the international community, including the cultural, political, intellectual and economic factors that have influenced this region's history. They also will learn to critically evaluate historical materials relevant to the study of Asia. **Prerequisite(s):* Power of Language English Core course.

HI 112 - NCH History of Modern Asia
4.00 credits. **(Non-Western Cultural Heritage Core Course)** This course examines the history of Asia from approximately 1500 until the present day. It will focus on cross-cultural contacts within Asia and with the West. By semester's end, students will have a better appreciation of Asia in our international community, and will better understand the cultural, political, intellectual and economic factors that have influenced this region's history. **Prerequisite(s):* Power of Language English Core course.

HI 114 - WCH Western Civilization I
4.00 credits. **(Western Cultural Heritage Core Course)** This course will examine the evolution of Western civilization from its origins in ancient Mediterranean communities (c. 3000 BCE) to the end of the Thirty Years' War (1648). Emphasis will be placed on the role of politics, economics, culture, religion, and ideology in shaping European societies.

HI 115 - WCH Western Civilization II
4.00 credits. **(Western Cultural Heritage Core Course)** An exploration of historical developments that dominated Western civilization from 1500 through the present. Emphasis will be placed on the role of politics, economics, culture, religion and ideology in shaping modern society in Europe and the United States.

HI 208 - Technology and Values in American Experience
4.00 credits. An effort to understand the values implicit in the choices that have been made in substituting a newer technology for an older technology throughout American history. Transportation, systems of production, the generation of power, medicine and armaments constitute areas of particular emphasis.

HI 209 - Nineteenth-Century Europe
4.00 credits. This course examines political, economic, social, and cultural developments in Europe from 1815 to 1914. Emphasis will be placed on the industrial revolution, conservatism, liberalism, socialism, romanticism, nationalism, imperialism, anti-Semitism, romanticism, realism, and modernism.

HI 210 - Twentieth-Century Europe
4.00 credits. This course examines political, economic, social, and cultural developments in Europe from 1914 to the present. Emphasis will be placed on World War I, the Russian Revolution, Fascism, Nazism, Communism, World War II, the Cold War, decolonization, the collapse of Communist regimes in Eastern Europe, and the evolution of the European Union.

HI 215 - British History: Themes and Topics
4.00 credits. Beginning with the Saxon invasions and extending through the modern empire, themes in this course will include English legal history, the common law and parliament; social and cultural life; the relation of England to Ireland, Scotland and Wales; the English reformation and Civil War; military and naval history; and the consolidation of empire.

HI 220 - The American Radical Tradition
4.00 credits. This course will offer a historical survey of the American Left, from the Founding generation to the present day. The study of politics, labor, gender, race and intellectual change will all be utilized to explore a number of contested issues - socialism, black power and the student movement - that have shaped this nation's past and informed its present.

HI 224 - History of Modern China
4.00 credits. This course traces China's history from the turbulent close of the dynastic era at the end of the 19th century through the present Communist period. Upon completion of the course, the student will be able to describe, explain and analyze diplomatic, political, social, economic and technological interactions between China and its Asian neighbors as well as between China and the West for the modern period.

HI 225 - History of Modern Japan
4.00 credits. This course traces Japan's history from the period of the Meiji Restoration in the mid-19th century to the present period. Upon completion of the course, the student will be able to describe, explain and analyze diplomatic, political, social, economic and technological interactions between Japan and its Asian neighbors as well as between Japan and the West for the modern period.

HI 230 - American Minds I - From Puritanism to Transcendentalism
4.00 credits. This course explores the development of American thought from the era of New England Puritanism to the age of sectionalism and Civil War. It will center on close readings of classic texts, essays and speeches penned by a number of significant thinkers including Anne Hutchinson, Thomas Paine, Henry David Thoreau, Harriet Jacobs, and Herman Melville. An analysis of "native" ideas, the class offers students fresh and original ways to think about the American past.

HI 231 - American Minds II - From Victorianism to Multiculturalism
4.00 credits. This course explores the development of American ideas from the post-Civil War Victorians to contemporary debates over multiculturalism and postmodernism. It will center on close readings of "classic" and controversial texts written by such original thinkers as Henry Adams, W.E.B. Du Buois, Charlotte Perkins Gilman, Reinhold Niebuhr and Richard Rorty.

HI 303 - Jeffersonian America
4.00 credits. This course explores the formative years of the early American republic from the drafting of the Constitution to the age of sectionalism. Topics include the emergence of competitive political parties, the nation's divided reaction to the French Revolution, the unexpected growth of popular democracy, the War of 1812, and the expansion of slavery across the country's southwestern frontier. Enrollment limited to sophomore status or above.

HI 304 - Sectionalism and Civil War
4.00 credits. This course examines the causes, character, and consequences of America's Civil War. Topics include the failure of antebellum politics, the centrality of the slavery "question," arguments for and against secession, and an overview of the military campaigns that defeated the Confederacy. Enrollment limited to sophomore status or above.

HI 306 - Recent History of the U.S.
4.00 credits. An intensive analysis of the vexing economic, political, social and diplomatic forces responsible for shaping the American experience since 1900; conflicting interpretations emphasized. Enrollment limited to sophomore status or above.

HI 307 - American Economic History
4.00 credits. The growth and development of the American economy and its impact on human welfare. Emphasis is placed on the role of the entrepreneur, particular businesses, industrialization, government policy and labor. Agrarian endeavor and slavery, and periodic recessions and depressions, together with the problems of unemployment and reindustrialization are considered. Enrollment limited to sophomore status or above.

HI 308 - History in Literature
4.00 credits. An exploration of recent history (1900-2000) through the novel. This course will analyze how race, myth, power and class in the modern world have been interpreted by writers from around the globe. It will further assess how literary movements have sometimes reflected and sometimes challenged the values of their societies. Enrollment limited to sophomore status or above.

HI 309 - American Intellectual History
4.00 credits. An examination of the major social and intellectual movements in the United States. Enrollment limited to sophomore status or above.

HI 311 - The Ancient World
4.00 credits. An examination of the history and interconnection of ancient regions, including Mesopotamia, Egypt, Assyria, Israel, Greece and Rome. Enrollment limited to sophomore status or above.

HI 312 - Rise of Europe, 400 - 1400
4.00 credits. An exploration of the growth of western Europe from its Greek and Roman heritage and the fall of Rome through the consolidation of the Church and Christianity, the rise of kingship and nationhood, the emergence of classes, and economic, social and cultural developments. Enrollment limited to sophomore status or above.

HI 315 - The Early Modern World: Religion, Renaissance and Encounter
4.00 credits. An examination of the religious, political, cultural and scientific changes in Europe between 1400 and 1750, with emphasis placed also on the Ottoman Empire, the encounter with America, the expansion into Asia and Africa, and other global realities. Enrollment limited to sophomore status or above.

HI 316 - Birth of the Modern Age (1600-1800)
4.00 credits. An analysis of an emerging, world-dominating Europe, with emphasis on the Enlightenment, the nation-state, global conflicts, civil wars and revolutions, and social, cultural and economic developments. Enrollment limited to sophomore status or above.

HI 318 - Overseas Chinese Communities
4.00 credits. In this course, we will trace the history of overseas Chinese communities during the modern era. Special attention will be paid to the Chinese communities in Hong Kong, Taiwan, Singapore and the United States. Upon completion of the course, each student will be able to describe, explain and analyze the effects of nationalism, citizenship and globalization on transnational groups in general and the overseas Chinese in particular. **Prerequisite(s):* HI 112 or HI 220 or permission of instructor. Enrollment limited to sophomore status or above.

HI 320 - Middle East in Modern Times
4.00 credits. This course examines the major political, social, economic, and intellectual movements that have shaped states and peoples in the modern Middle East. The class will survey the rise of Islam and the history of the region from the seventh through the eighteenth centuries, but primary attention will be devoted to the nineteenth and twentieth centuries, particularly the challenges presented by Euro-American encroachment and the Israeli-Palestinian Conflict. Enrollment limited to sophomore status or above.

HI 321 - North Africa in Modern Times
4.00 credits. This course examines the major political, social, economic, and intellectual movements that have shaped states and peoples in North Africa. The class will survey the rise of Islam and the history of the region from the 7th through the 18th centuries, but primary attention will be devoted to the 19th and 20th centuries, particularly the challenges presented by European colonialism and decolonization. Enrollment limited to sophomore status or above.

HI 323 - France Since 1815
4.00 credits. This course examines France since 1815 by focusing on political, economic, social, and cultural developments. Subjects covered include the Restoration, the industrial revolution, the Revolution of 1848, the Second Empire, the Commune, the Third Republic, imperialism, the Belle Époque, the First World War, the Great Depression, the Popular Front, the Second World War, the Fourth Republic, the Fifth Republic, the Trente Glorieuses, urban expansion, decolonization, and immigration. Enrollment limited to sophomore status or above.

HI 324 - Empire and Nation in Eastern Europe
4.00 credits. This course examines the transition from empire to nation in East Central and Southeastern Europe by focusing on political, economic, social, and cultural developments. Subjects covered include the rise and collapse of the Austro-Hungarian and Ottoman Empires; the national states of the interwar years; the experiences of these states and peoples during World War II; the rise and fall of Communist regimes in East Central and Southeastern Europe; the disintegration of Yugoslavia; and the transition to parliamentary democracy and market economies in the years since 1989. Enrollment limited to sophomore status or above.

HI 330 - Studies in U.S. History
4.00 credits. An analytical inquiry into special periods and topics in American history. Enrollment limited to sophomore status or above. This course is repeatable for credit.

HI 340 - Studies in European History
4.00 credits. An analytical inquiry into special periods and topics in European history, including courses on World War I and World War II. Enrollment limited to sophomore status or above. This course is repeatable for credit.

HI 360 - Italian Renaissance (ART 360)
4.00 credits. The Italian Renaissance seminar is an in-depth cultural history of the humanist movement in Italy from 1250 to 1550 and its impact on the fine arts, literature, politics, religion, education and science. The course includes reading and discussion of primary texts by Petrarch, Dante, Boccaccio, Alberti, Machiavelli, Da Vinci, Michelangelo and Vasari. Topics include the revival of Antiquity, the discovery of Nature, Statecraft, scientific innovation and new concepts of genius and creativity. **Prerequisite(s):* ART 155, ART 157, or HI 115. Enrollment limited to sophomore status or above.

HI 370-378 - Special Topics in History
Variable credit. Special subjects chosen as a response to student and faculty interest (e.g. Technology and American Society, and Urban History). Enrollment limited to sophomore status or above. This course is repeatable for credit.

HI 400 - Senior Honors Project
Variable (2.00 or 4.00) credits. Students who have been invited and accepted to participate in the Honors in the Discipline Program may register for this course in the semester or semesters (no more than two) in which the research or creative project is initiated and/or completed. The total credit hours for the senior project shall not exceed 4 hours. Completion of this course does not assure recognition for Honors in the Discipline. See Department Chair for additional information **Prerequisite(s):* Invitation to Honors in the Discipline Program. Enrollment limited to sophomore status or above.

HI 450 - Topics in Historiography
4.00 credits. This course provides each student with the opportunity to think critically about the writing of history. It also allows each student to practice his or her communication skills, both verbally and in writing. Rather than reading simply for content, we will spend much of our time analyzing the various approaches to history. We will attempt to understand the assumptions, biases, and interpretive paradigms that underlie each of these approaches. In short, we will focus not on the "what" of history but on the "why" and "how." **Prerequisite(s):* History majors during the senior year. Enrollment limited to sophomore status or above.

HI 470-474 - Internship in Historical Studies
Variable (2.00 to 4.00) credits. This course provides students with applied field instruction in history. Forty hours of on-site work is required for every credit hour granted. In addition to on-site work, students will complete writing assignments designed to promote reflection on the work experience. Enrollment limited to sophomore status or above. Register by Instructor. This course is repeatable for credit.

HI 480-489 - Independent Study in History
Variable credit. Designed to offer an opportunity to use techniques of historical interpretation in specific problem areas. **Prerequisite(s):* Approval of the Department Chair, the Independent Study Committee, and permission of the instructor. Enrollment limited to sophomore status or above. Register by Instructor. This course is repeatable for credit.

HI 490 - Independent Research in History
4.00 credits. This independent research course focuses on a topic of mutual interest to the History major and Department mentor. The course may be initiated in the student's junior year but no later than the first semester of the senior year. The course must be registered during the semester in which it will be completed. Enrollment limited to sophomore status or above. Register by Instructor.

Department of Mathematical Sciences

Hughes (Chair), Batakci, Doytchinov, McDevitt, Sanchis, Soltys, Thorsen, Wile

For more information, please visit the Department's website or check your course syllabi, which are available through the course instructor or at the High Library.

The major programs in Mathematical Sciences are designed to prepare students either for graduate study of mathematics, for secondary teaching of mathematics, or for employment in fields that make heavy use of mathematics, such as actuarial science, engineering or statistics. Service courses offered by Mathematical Sciences provide students in the physical, managerial, social and life sciences with the mathematical tools essential for their respective fields. Some of these courses also satisfy the College Core requirement in the area of Mathematics. Core courses in Mathematics are designed to help students discover the cultural significance of mathematics and its contribution to the modern world and to promote the development of proficiency with deductive reasoning, problem-solving strategies, computational skills and using mathematics to model real-world phenomena.

Majors Offered

The Department offers majors in **Actuarial Science** and **Mathematics**. The Mathematics major offers three concentrations: Applied Mathematics, Pure Mathematics and **Mathematics Secondary Education**.

Minor Offered

In addition to the two majors, the Department offers a **Mathematics minor.** The Department also participates in the **General Science Minor**.

Honors in the Discipline

The Department of Mathematical Sciences participates in the College Honors in the Discipline Program. For guidelines, students should consult the Department Chair.

Actuarial Science (B.S.)

Student Learning Outcomes for Actuarial Science:

Students will be able to:

- Solve problems using fundamental concepts of calculus, linear algebra, discrete mathematics, probability, interest theory, and statistics.
- Communicate precise deductive mathematical arguments, both orally and in writing, using professionally accepted conventions of language.
- Offer well-reasoned critiques of mathematical arguments presented in professional contexts.
- Be proficient with mathematical software and one or more programming languages at a level that enables them to solve mathematical problems or demonstrate mathematical ideas.

- Apply learning relevant to actuarial science in the areas of probability, financial mathematics, economics, life contingencies, corporate finance, and statistics.
- Demonstrate the ability to communicate the results of inductive quantitative analysis effectively, both orally and in writing.
- Demonstrate the ability to work cooperatively with others.
- Demonstrate the ability to engage in lifelong learning and professional growth.

Actuarial Science majors are required to take:

- MA 121 - MA Calculus I
- MA 122 - Calculus II
- MA 201 - Linear Algebra
- MA 222 - Calculus III
- MA 235 - Introduction to Mathematical Proofs
- MA 251 - MA Probability and Statistics
- MA 252 - Statistical Methods in Research
- MA 255 - Mathematics of Compound Interest
- MA 256 - Problem Solving in Interest Theory
- MA 351 - Theory of Probability
- MA 352 - Mathematical Statistics
- MA 355 - Problem Solving in Actuarial Science

- MA 457 - Actuarial Models - Financial Economics or
- MA 458 - Actuarial Models - Life Contingencies

- AC 101 - Introduction to Accounting
- EC 101 - Principles of Macroeconomics
- EC 102 - Principles of Microeconomics
- BA 325 - Corporate Finance
- CS 121 - Computer Science I (should be taken as early as possible)

Also required:

- Evidence of successful completion, prior to graduation, of the Exam P or Exam FM examination of the Society of Actuaries (SOA). The completion of additional examinations is encouraged.

Mathematics (B.S.)

Student Learning Outcomes for Mathematics:

Students will be able to:

- Solve problems using fundamental concepts of calculus, linear algebra, discrete mathematics, probability, abstract algebra, and real analysis.

- Communicate precise mathematical arguments, both orally and in writing, using professionally accepted conventions of language for mathematical proofs and construction of counterexamples.
- Offer well-reasoned critiques of mathematical arguments presented in professional contexts.
- Use mathematical software and one or more programming languages to solve mathematical problems or demonstrate mathematical ideas.

All mathematics majors are required to take a minimum of 43 credits in mathematics courses, including:

- MA 121 - MA Calculus I
- MA 122 - Calculus II
- MA 201 - Linear Algebra
- MA 222 - Calculus III
- MA 235 - Introduction to Mathematical Proofs
- MA 301 - Abstract Algebra
- MA 351 - Theory of Probability
- MA 421 - Real Analysis
- CS 121 - Computer Science I (should be taken as early as possible)

As part of these requirements, students may elect one of the following concentrations:

Applied Mathematics concentration

Student Learning Outcomes for Applied Mathematics concentration:

Students will be able to:

- Solve problems using fundamental concepts of physics.
- Demonstrate a high level of proficiency of applied problem solving in computer science, and in three out of the following four areas: differential equations, operations research, statistics, and numerical analysis.

The **Applied Mathematics concentration** provides a background in applied mathematics and statistics, enabling graduates to seek careers in government and industry, or to pursue graduate work in applied mathematics or statistics. The Applied Mathematics concentration requires:

- CS 122 - Computer Science II
- PHY 200 - College Physics I
- At least four credits of acceptable mathematics electives (courses numbered 251 and above)

12 credits selected from:

- MA 252 - Statistical Methods in Research
- MA 260 - Introductory Mathematica and Cryptology
- MA 262 - Financial Mathematics with Excel
- MA 321 - Differential Equations
- MA 331 - Operations Research
- MA 352 - Mathematical Statistics

- MA 460 - Numerical Methods and Matlab
- MA 463 - Advanced Excel with Applications to Mathematics

Pure Mathematics concentration

Student Learning Outcomes for Pure Mathematics concentration:

Students will be able to:

- Demonstrate facility with the higher level of abstraction required for graduate-level work in pure mathematics.
- Demonstrate independent thinking and interest in mathematics.

The **Pure Mathematics concentration** is designed to provide a foundation for successful graduate study in mathematics. The Pure Mathematics concentration requires:

- MA 425 - Complex Variables
- MA 441 - Topology
- At least eight credits of acceptable mathematics electives (courses numbered 251 and above)

If no concentration is selected:

- At least 11 credits from acceptable mathematics electives (courses numbered 251 and above)

Mathematics Secondary Education (B.S.)

Student Learning Outcomes for Secondary Education concentration:

Students will be able to:

- Design appropriate instructional and assessment activities for mathematics.
- Apply best teaching practices and effective learning theories as they relate to the teaching and learning of mathematics.
- Design, organize, and maintain an effective classroom environment that promotes success in mathematics.
- Design and implement successful interventions responsive to the needs of individual students.
- Demonstrate the ability to work cooperatively with others.
- Solve problems using fundamental concepts of modern geometry, statistics, and physics.

The **Secondary Education concentration** (Mathematics Education) is required for secondary education certification. Students in this concentration are given a solid foundation in geometry, algebra and statistics essential for effective teaching and analysis of the secondary school mathematics curriculum.

All mathematics majors are required to take a minimum of 45 credits in mathematics courses:

- MA 121 - MA Calculus I
- MA 122 - Calculus II
- MA 201 - Linear Algebra
- MA 222 - Calculus III
- MA 235 - Introduction to Mathematical Proofs
- MA 301 - Abstract Algebra
- MA 351 - Theory of Probability
- MA 421 - Real Analysis
- CS 121 - Computer Science I (should be taken as early as possible)

In addition to the requirements above for the Mathematics major, the Secondary Education concentration requires:

- MA 252 - Statistical Methods in Research or
- MA 352 - Mathematical Statistics

- MA 341 - Modern Geometry
- At least eight credits of acceptable mathematics electives (courses numbered 251 and above)
- PHY 200 - College Physics I

Education Courses:

- ED 105 - Foundations of Teaching and Learning
- ED 151 - Early Adolescent/Adolescent Development
- ED 161 - Integrated Technology I
- SED 222 - Foundations of Inclusive Education (MSE 522)
- ED 305 - Methods of Secondary Education
- ED 341 - ELL: Linguistic and Cultural Diversity in the Classroom
- ED 470 - Professional Internship
- ED 497 - Senior Seminar for Secondary Education
- Two English courses for Education certification, one literature and one writing (EN 100 or EN 150)

Mathematics Minor

In addition to the two majors, the Department offers a minor in Mathematics that requires:

- MA 121 - MA Calculus I
- MA 122 - Calculus II
- MA 201 - Linear Algebra
- MA 235 - Introduction to Mathematical Proofs
- Twelve credits of mathematics electives at or above the 200-level

Mathematics Courses

MA 011 - Intermediate Algebra
2.00 credits. An accelerated review of the fundamental algebraic and computational skills used in certain science courses and all math courses. Credits are not applicable to the 125 required for graduation. Fall semester.

MA 105 - Mathematics for Liberal Studies
4.00 credits. An introduction to mathematical structures and applications designed to help students understand the historical and contemporary role of mathematics in everyday life. The course includes a substantial review of algebraic concepts, and topics from other areas such as logic, set theory, number systems, probability, graph theory and matrix algebra. **Prerequisite(s):* A grade of C- or better in MA 011 or placement. *No student who has received credit for a higher numbered Mathematics course may enroll in MA 105. NOTE: This course will satisfy Mathematics Core AU for students enrolled prior to Fall 2013.

MA 110 - College Algebra and Trigonometry
4.00 credits. This course emphasizes algebraic and trigonometric concepts and their applications in the modern world, helping students prepare for further mathematical studies. The algebra of real numbers and the basics of trigonometry are studied in detail. Systems of equations, conic sections and sequences of real numbers are covered. **Prerequisite(s):* A grade of C- or better in MA 011 or placement.

MA 117 - Concepts of Calculus
4.00 credits. Designed to give students in the biological, social and management sciences a firm working knowledge of calculus. The approach is intuitive, with emphasis on applications. Topics include differentiation, curve sketching, optimization, logarithmic and exponential functions, and integration. **Prerequisite(s):* A grade of C- or better in MA 011 or placement. Note: Students who have received credit for MA 121 may not enroll in this course. NOTE: This course will satisfy Mathematics Core AU for students enrolled prior to Fall 2013.

MA 121 - MA Calculus I
4.00 credits. **(Mathematics Core Course)** A thorough introduction to the basic concepts and techniques of the differential and integral calculus of elementary functions, including a study of limits and continuity. Applications to the physical, biological and social sciences are studied in detail. **Prerequisite(s):* A grade of C- or better in MA 110 or placement. Note: Students who have received four credits for MA 117 receive two credits for this course.

MA 122 - Calculus II
4.00 credits. A continuation of MA 121 involving the calculus of the trigonometric, exponential, logarithmic and rational functions. Analytic geometry in the plane, parametric equations, polar coordinates, sequences and series are included, and an in-depth study of integration is completed. **Prerequisite(s):* MA 121.

MA 201 - Linear Algebra
4.00 credits. A presentation of the basic concepts and techniques of linear algebra including vectors, vector spaces, matrices, determinants, systems of linear equations, eigenvectors and linear transformations. Students will be expected to do mathematical proofs. **Prerequisite(s):* MA 122. Spring semester.

MA 205 - Mathematics for the Early Childhood Teacher
4.00 credits. A course designed to build understanding of early childhood and some middle level math concepts. Students are required to explain their reasoning and learn multiple methods of solution. Spring semester.

MA 206 - Mathematics for the Middle Level Elementary Teacher
4.00 credits. A course designed to build understanding of middle level math concepts. Students are required to explain their reasoning and learn multiple methods of solution. Fall semester.

MA 222 - Calculus III
4.00 credits. A continuation of MA 122, that completes the topics of the calculus sequence, including three-dimensional analytic geometry, vectors and vector valued functions, and calculus of functions of several variables. **Prerequisite(s):* MA 122.

MA 235 - Introduction to Mathematical Proofs
4.00 credits. Topics include logic, sets, functions, relations, mathematical induction, combinatorics and other counting techniques, graphs and trees. Special emphasis will be given to writing correct mathematical proofs. **Prerequisite(s):* MA 122. Spring semester.

MA 251 - MA Probability and Statistics
4.00 credits. **(Mathematics Core Course)** Covers the basic principles of descriptive statistics, experimental design and statistical inference. The primary objective of this course is to introduce students to statistical thinking and methodology, and their use in the natural and social sciences. **Prerequisite(s):* A grade of C- or better in MA 011 or placement.

MA 252 - Statistical Methods in Research
4.00 credits. A second course in Statistics, introducing students to major statistical methods for research in the physical and life sciences, business, economics, and the social sciences. Topics include comparison of means, design of experiments and ANOVA, categorical analysis, regression, time series, and nonparametric methods. Statistical software is used, and students pursue a research project that requires statistical analysis, culminating in a written research report, and an oral presentation. **Prerequisite(s):* MA 251. Spring semester.

MA 255 - Mathematics of Compound Interest
4.00 credits. This course introduces the mathematical foundations of interest theory and financial derivatives. Topics include: measurement of interest; annuities certain; yield rates; amortization schedules and sinking funds; bonds and related securities; yield curves, spot rates, and forward rates; convexity and immunization; derivative securities; forward contracts; put and call options, including put-call parity; hedging; futures; and swaps. This is a first course aimed at students preparing for the Actuarial Examination FM. **Prerequisite(s):* MA 117 or MA 121. Fall semester.

MA 256 - Problem Solving in Interest Theory
3.00 credits. This is an intensive course based on the theoretical knowledge obtained in MA 255. Numerous practical examples and problems will give the student a firm grasp of the underlying theory. The course is specifically geared towards the students' preparation for the Actuarial Examination FM. **Prerequisite(s):* MA 255. Spring semesters.

MA 260 - Introductory Mathematica and Cryptology
2.00 credits. This course provides an introduction to the use of Mathematica and elementary cryptology. Mathematica is powerful, all-purpose, mathematical software that can be used in a variety of academic, research, and business settings and its utility will be demonstrated in the context of historical encryption algorithms and public key cryptography.

MA 262 - Financial Mathematics with Excel
2.00 credits. In this course we will use Excel to study concepts and solve problems from financial mathematics. Topics will include: simple and compound interest, present and future value, discount rate, nominal rate, effective rate, force of interest, annuities, perpetuities, amortized loans, sinking funds, bonds, yield rate, and immunization. Alternating years.

MA 301 - Abstract Algebra
4.00 credits. A study of algebraic structures, such as groups, rings, integral domains, fields, polynomial rings and ideals. Also included are topics from number theory, divisibility, congruence and construction of number systems. Selected advanced topics - such as series of groups, Sylow Theorems, unique factorization domains, and field extensions - also will be covered. **Prerequisite(s):* MA 201 and MA 235. Fall semester.

MA 321 - Differential Equations
4.00 credits. A study of analytical and numerical approaches to ordinary differential equations and related topics and applications including complex arithmetic, matrix algebra, Fourier series, Fourier transforms, Laplace transforms, mechanical vibrations, and LRC circuits. **Prerequisite(s):* MA 122. Spring semester.

MA 331 - Operations Research
4.00 credits. A study of mathematical techniques and models used to solve problems from business, management and various other areas. Topics include linear programming, integer programming, dynamic programming, queuing theory, decision analysis, network analysis and simulations. **Prerequisite(s):* MA 201 or MA 321. Fall semester, even-numbered years.

MA 341 - Modern Geometry
4.00 credits. The concept of geometry as a logical system based upon postulates and undefined elements, along with an appreciation of the historical evolution of geometries. Topics include incidence geometries, planes and space, congruence, inequalities, parallel postulates, parallel projections, similarities, circles and additional theorems. **Prerequisite(s):* MA 235. Fall semester, odd-numbered years.

MA 351 - Theory of Probability
4.00 credits. A comprehensive development of the theory of probability. Topics include the basic principles of combinatorial analysis useful in computing probabilities, conditional probability, independence of events, Bayes' Rule, discrete and continuous random variables, jointly distributed random variables, expected values and variances, and limit theorems involving sums of independent random variables. **Prerequisite(s):* MA 222 and MA 235. Fall semester.

MA 352 - Mathematical Statistics
3.00 credits. A study of principles of statistical inference in the theory of statistics, with an emphasis on estimation, hypothesis testing and nonparametric statistics. The objective of this course is to build a solid undergraduate foundation in statistical theory and to provide an indication of the relevance and importance of the theory in solving practical problems. **Prerequisite(s):* MA 201 and MA 351. Spring semester, even years.

MA 355 - Problem Solving in Actuarial Science
3.00 credits. Fundamental mathematical tools for quantitatively assessing and managing risk are developed. A basic knowledge of calculus and probability is assumed. Specifically geared towards the student's preparation for the Actuarial Examination P. **Prerequisite(s):* MA 351. Spring semester.

MA 370-378 - Special Topics in Mathematics
Variable credit. Topics of special interest to advanced undergraduate mathematics students. **Prerequisite(s):* Permission of the Department Chair. Register by Instructor. This course is repeatable for credit.

MA 400 - Senior Project
Variable credit. An intensive, individual project, which must involve material not covered in regular course offerings, and be approved and guided by a faculty member. The student writes a paper (involving original exposition, original research or both) and presents her/his findings orally. To earn four credits for this course, a student must make an approved oral presentation outside of Elizabethtown College. Completion of this course does

not assure recognition for Honors in the Discipline. **Prerequisite(s):* Permission of Instructor. Graded Pass/No Pass. Register by Instructor. This course is repeatable for credit.

MA 421 - Real Analysis
4.00 credits. A rigorous study of the fundamental concepts of analysis, including such topics as sequences of real numbers, limits, continuity, differentiation and integration. **Prerequisite(s):* MA 201, MA 222 and MA 235. Fall semester.

MA 425 - Complex Variables
4.00 credits. A study of complex numbers, analytic functions, Cauchy's Theorem, the maximum modulus theorem, harmonic functions, power series, Laurent's series, calculation of residues, evaluation of real integrals, and conformal mappings. **Prerequisite(s):* MA 222 and MA 235. Spring semester, odd-numbered years.

MA 441 - Topology
4.00 credits. A rigorous introduction to the elements of point-set topology, including infinite cardinalities; abstract topological spaces; abstract continuity; separation and closure of sets in topological spaces; connectedness and compactness. More advanced topics in topology will be explored through required oral presentations. **Prerequisite(s):* MA 235. Spring semester, even-numbered years.

MA 457 - Actuarial Models - Financial Economics
4.00 credits. A comprehensive development of the theoretical basis of certain financial models used by actuaries. Topics include interest rate models, rational valuation of derivative securities, and risk management techniques. **Prerequisite(s):* MA 255 and MA 351. Spring semester, even-numbered years.

MA 458 - Actuarial Models - Life Contingencies
4.00 credits. A comprehensive development of the theoretical basis of certain actuarial models and the application of those models to insurance and other financial risks. Topics include survival models, Markov Chain models, life insurances and annuities, and Poisson processes. **Prerequisite(s):* MA 255 and MA 351. Spring semester, odd-numbered years.

MA 460 - Numerical Methods and Matlab
2.00 credits. A study of numerical methods using the powerful software package Matlab. Topics include solutions of nonlinear equations in one or more variables, optimization, interpolation, numerical differentiation and integration, matrix algebra, and differential equations. Emphasis is placed on the use of routines built into Matlab. **Prerequisite(s):* MA 201 or MA 321.

MA 463 - Advanced Excel with Applications to Mathematics
2.00 credits. In this course we will learn to use advanced features of Excel to solve problems in mathematics. Topics will include Excel formulas, using the Solver, pivot tables, performing spreadsheet what-if analysis, graphing, and an introduction to VBA programming. **Prerequisite(s):* MA 122. Alternating years.

MA 464 - Geogebra
2.00 credits. In this course we will explore Geogebra, a free software package developed for teaching and learning mathematics in schools at both the high school and collegiate level. Topics will include geometric constructions, algebraic input, the spreadsheet feature, animations, custom tools, creating dynamic interactive worksheets for the web using Javascript, and creating slide shows for presentations. **Prerequisite(s):* MA 122. Alternating years.

MA 470-474 - Internship in Mathematics
Variable credit. Opportunity for students to intern in a mathematical setting. Register by Instructor. This course is repeatable for credit.

MA 480-489 - Independent Study in Mathematics
Variable credit. **Prerequisite(s):* Approval of Department Chair and Independent Study Committee. Register by Instructor. This course is repeatable for credit.

Honors Mathematics Courses

HMA H270 - HNR History of Mathematics
4.00 credits. This course will examine the history of mathematical thought from ancient times to the 20th century. Emphasis will be placed on the history of mathematical topics typically covered in the high school or early college curriculum. The course will seek to foster an appreciation of the great theorems of mathematics and the imagination and brilliance of the mathematicians who conceived them. NOTE: This course will satisfy Mathematics Core AU for students enrolled prior to Fall 2013. Register by Instructor.

HMA H272 - HNR Ethnomathematics
4.00 credits. An interdisciplinary study of the relationship between mathematics and culture. The mathematical content includes topics from number systems, graph theory, algebra, probability and geometry, and the cultural component investigates the mutual influences of culture and math upon each other. This course includes a week-long trip to Mexico to explore Mayan ruins, culture and mathematics. Register by Instructor.

HMA H275 - HNR CE Mathematics in Music
4.00 credits. **(Creative Expression Core Course - Honors)** Participants will deepen and enrich their creative experience of music by learning about the principal ways that mathematical ideas are applied to the creation of music, and incorporating these ideas into their own creative repertoires. Of particular interest will be basic acoustical phenomena, tuning systems, and (especially) music theory and composition. Register by Instructor.

Department of Modern Languages

Lorenzen (Chair), Barnada, Bhattacharya, Harman, Jing, Linares-Farras, Takahashi

For more information, please visit the Department's website or check your course syllabi, which are available through the course instructor or at the High Library.

The study of a modern foreign language brings together practical training in language skills – understanding, speaking, reading and writing – with an understanding of the sociology, history and literature of the culture. The pragmatic virtues of a usable skill are joined with the humanistic values of liberal education.

The Department of Modern Languages offers programs of study that reflect its desire to encourage both mastery of one or more foreign languages and an overall appreciation of the cultural contexts in which they occur. The Department serves the Core Program, Bachelor of Arts degree major and minor language candidates, students whose degree programs require studies in languages, and students who – for professional or personal reasons – wish to broaden their cultural background.

Majors

The Department offers majors in **French**, **German**, **Japanese, Spanish**, and **Spanish Education** Language majors are required to participate in a BCA Study Abroad or another Department-approved program for one academic year or equivalent of two separate semesters. Non-majors who have completed 212 or above also are encouraged to participate in the BCA or approved study-abroad programs.

Minors

The Department of Modern Languages offers minors in **French**, **German**, **Japanese** and **Spanish**. Each minor require a minimum of four courses (16 credits).

General Information

All students with more than two full years of language preparation must take courses at the 112-level or above. The appropriate language level is determined by an online placement test. In the case of Japanesse placement, students must contact the Japanese faculty.

Native and heritage speakers must contact the Department Chair, if they plan to take courses in their native or heritage language.

For further information, please consult the Modern Language Department's website or the Department Chair.

Honors in the Discipline

The Department of Modern Languages participates in the College Honors in the Discipline Program. For guidelines, students should consult the Department Chair.

Modern Languages Courses

Courses in Chinese and other languages are offered depending on student interest and availability of staff.

French (B.A.)

Student Learning Outcomes for French:

Students will be able to:

- Communicate (speak and comprehend) at the Advanced level according to ACTFL guidelines.
- Write at the Advanced level according to ACTFL guidelines.
- Write a research project in French focused on reading primary and secondary sources in French.
- Use appropriately and explain most grammatical structures of the French language.
- Demonstrate an understanding and appreciation of the perspectives and products of the cultures studied in themselves and in comparison with their own culture.
- Read, analyze and interpret literary texts in terms of themes, characters, structure, style, and overall textual strategies, and situate those texts in their cultural contexts.

French majors must complete a minimum of 20 credits (four courses) in residency (200-level or above) and a minimum of 15 credits over two semesters in an approved study-abroad program.

In exceptional cases, certain double majors who can prove that they cannot otherwise satisfy all requirements of both majors may apply for an exception of one semester for the full-year study-abroad requirement. Any double majors granted this exception still must obtain a minimum oral proficiency rating of Advanced.

Majors must complete the following courses in residency:

- FR 211 - PLO Intermediate French I
- FR 212 - PLO Intermediate French II
- Two 300-level elective courses
- FR 496 - French Senior Research Project I (senior year)
- FR 497 - French Senior Research Project II (senior year)

A minimum of 15 credits must be completed during a one-year (two-semester) study-abroad experience.

Students must complete courses at the 300 (advanced) level or above that include one conversation and composition in French; one French phonetics; one French history, art or culture; one French literature; and one French elective. After completing the required course work, majors must take an oral interview on campus and receive a minimum rating of advanced.

German (B.A.)

Student Learning Outcomes for German:

Students will be able to:

- Communicate (speak and comprehend) at the Advanced level according to ACTFL guidelines.

- Write at the Advanced level according to ACTFL guidelines.
- Write a research project in German focused on reading primary and secondary sources in German.
- Use appropriately and explain most grammatical structures of the German language.
- Demonstrate an understanding and appreciation of the perspectives and products of the cultures studied in themselves and in comparison with their own culture.
- Read, analyze and interpret literary texts in terms of themes, characters, structure, style, and overall textual strategies, and situate those texts in their cultural contexts.

German majors must complete a minimum of 20 credits (four courses) in residency (200-level or above) and a minimum of 15 credits over two semesters in an approved study-abroad program.

In exceptional cases, certain double majors who can prove that they cannot otherwise satisfy all requirements of both majors may apply for an exception of one semester for the full-year study-abroad requirement. Any double majors granted this exception still must obtain a minimum oral rating of Advanced.

Majors must complete the following courses in residency:

- GER 211 - PLO Intermediate German I
- GER 212 - PLO Intermediate German II
- Two 300-level elective courses
- GER 496 - German Senior Research Project I (senior year)
- GER 497 - German Senior Research Project II (senior year)

A minimum of 15 credits must be completed during a one-year (two-semester) study-abroad experience.

Students must complete courses at the 300 (advanced) level or above that include one conversation and composition in German; one German phonetics; one German history, art or culture; one German literature; and one German elective. After completing the required course work, majors must take an oral interview on campus and receive a minimum rating of Advanced.

Japanese (B.A.)

Student Learning Outcomes for Japanese:

Students will be able to:

- Communicate (speak and comprehend) at the Intermediate level according to ACTFL guidelines.
- Write at the Intermediate level according to ACTFL guidelines.
- Write a research project in English using primary sources in Japanese.
- Receive a passing grade in the JLPT Level 3 (in-house version).
- Demonstrate an understanding and appreciation of the perspectives and products of the cultures studied in themselves and in comparison with their own culture.

- Read, analyze and interpret literary texts in terms of themes, characters, structure, style, and overall textual strategies, and situate those texts in their cultural contexts.

Japanese majors are expected to complete a minimum of 40 credits in the language, 12 of which may be earned in one of the three department-approved study-abroad programs in Japan.

Students with no background in Japanese are advised to enroll in this program at the first semester of their study at the College. Those with a previous background in Japanese must take a placement test to determine their proficiency level in the language.

Japanese majors must study abroad for two semesters, and the courses taken abroad may be substituted for two of the courses listed below. However, in exceptional cases, certain double majors who can prove that they cannot otherwise satisfy all requirements of both majors may apply for a substitution of one semester for the two-semester, study-abroad requirement, in which case the courses taken abroad would count for one of the courses listed below. Any double majors granted this exception must pass an exit exam, equivalent to the Level 3 of the Japanese Language Proficiency Test of the Japan Foundation.

Students are advised to study abroad in their junior year.

After completing the required course work, Japanese majors must pass an exit exam, equivalent to the Level 3 of the Japanese Language Proficiency Test (JLPT) of the Japan Foundation.

Modern language majors in Japanese must complete:

- JA 111 - PLO First Year Japanese 1
- JA 112 - PLO First Year Japanese 2
- JA 211 - PLO Second Year Japanese 1
- JA 212 - PLO Second Year Japanese 2
- JA 311 - Third Year Japanese 1
- JA 312 - Third Year Japanese 2
- JA 411 - Fourth Year Japanese 1
- JA 412 - Fourth Year Japanese 2
- JA 496 - Japanese Senior Research Project I
- JA 497 - Japanese Senior Research Project II

Spanish (B.A.)

Student Learning Outcomes for Spanish:

Students will be able to:

- Communicate (speak and comprehend) at the Advanced level according to ACTFL guidelines.
- Write at the Advanced level according to ACTFL guidelines.
- Write a research project in Spanish focused on reading primary and secondary sources in Spanish.
- Use appropriately and explain most grammatical structures of the Spanish language.

- Demonstrate an understanding and appreciation of the perspectives and products of the cultures studied in themselves and in comparison with their own culture.
- Read, analyze and interpret literary texts in terms of themes, characters, structure, style, and overall textual strategies, and situate those texts in their cultural contexts.

Spanish majors must complete a minimum of 20 credits in residency (four 300-level courses and SP 495) and a minimum of 15 credits (five courses) at the 300 (advanced) level or above in an approved study-abroad program over two semesters. Students must complete non-survey courses that include one Spanish syntax, morphology and/or phonetics; one Spanish writing and/or speaking; one Spanish history, one art and/or culture of the country including, but not limited to, civilization, cultural periods, and cultural heritage; one Spanish Literature focusing on an author, genre, country or literary period; and one Spanish elective.

Other requirements include two oral interviews and a student portfolio (due November 30th or April 30th of the student's final year). An initial oral interview must be completed prior to going abroad and a rating of Intermediate must be obtained. A second oral interview will be completed after the study-abroad experience has been completed and a rating of Advanced must be obtained.

Majors must complete the following courses in residency:

- SP 305 - Spanish Conversation
- SP 315 - Spanish Grammar and Composition
- SP 319 - Spanish Linguistics
- SP 496 - Spanish Senior Research Project I (senior year)
- SP 497 - Spanish Senior Research Project II (senior year)

And at least one of the following course electives:

- SP 312 - Modern Spain
- SP 314 - Modern Hispanic America
- SP 323 - Introduction to Literature
- SP 370-378 - Special Topics in Spanish

Spanish Education (B.A.)

Student Learning Outcomes for Spanish Education:

Students will be able to:

- Critically evaluate the historical development of current theories of foreign language learning.
- Select, adapt and create materials for effective foreign language instruction.
- Evaluate and implement effective technology for foreign language instruction.
- Plan and execute effective, standards-based foreign language instruction and integrated assessments of foreign language learning.
- Become engaged in foreign language teacher professional development.

Spanish Education majors must complete a minimum of 20 credits in residency (four 300-level courses and SP 495) and a minimum of 15 credits (five courses) at the 300 (advanced) level or above in an approved study-abroad program over two semesters. Students must complete non-survey courses that include one Spanish syntax, morphology and/or phonetics; one Spanish writing and/or speaking; one Spanish history, one art and/or culture of the country including, but not limited to, civilization, cultural periods, and cultural heritage; one Spanish Literature focusing on an author, genre, country or literary period; and one Spanish elective.

Other requirements include qualifying scores in PAPA exams and Praxis II exams, two Mathematics (MA – excluding MA 011) courses, two English (EN – English literature and English writing) courses, two oral proficiency interviews and a portfolio (due November 30th or April 30th of the student's final year). An initial interview must be completed prior to going abroad and a rating of Intermediate must be obtained. A second oral interview will be completed after the study-abroad experience has been completed and a rating of Advanced must be obtained.

Modern language majors in Spanish Education (Certification K-12) must complete the following Department of Education courses:

- ED 105 - Foundations of Teaching and Learning
- ED 151 - Early Adolescent/Adolescent Development
- ED 161 - Integrated Technology I
- ED 341 - ELL: Linguistic and Cultural Diversity in the Classroom
- ED 306 - Methods of Modern Language Education K-12
- ED 470 - Professional Internship
- ED 497 - Senior Seminar for Secondary Education
- SED 222 - Foundations of Inclusive Education (MSE 522)

Majors also must complete the following Department course offerings:

- SP 305 - Spanish Conversation
- SP 315 - Spanish Grammar and Composition
- SP 319 - Spanish Linguistics
- SP 496 - Spanish Senior Research Project I
- SP 497 - Spanish Senior Research Project II

And one of the following course electives:

- SP 312 - Modern Spain
- SP 314 - Modern Hispanic America
- SP 323 - Introduction to Literature
- SP 370-378 - Special Topics in Spanish

French Minor

The French minor requirements are:

A minimum of four courses or 16 credits. At least two of the four courses below must be completed on the Elizabethtown College campus. The remaining two courses may be completed on campus, in a BCA program, or in

another well-established study-abroad program. After completing the required course work, students must take an oral interview and receive a minimum rating of Intermediate High.

- FR 211 - PLO Intermediate French I
- FR 212 - PLO Intermediate French II
- Two 300-level French electives

German Minor

The German minor requirements are:

A minimum of four courses or 16 credits. At least two of the four courses below must be completed on the Elizabethtown College campus. The remaining two courses may be completed on campus, in a BCA program, or in another well-established study-abroad program. After completing the required course work, students must take an oral interview and receive a minimum rating of Intermediate High.

- GER 211 - PLO Intermediate German I
- GER 212 - PLO Intermediate German II
- Two 300-level German electives

Japanese Minor

The minor in Japanese is accomplished with 24 credits in the six courses listed below. Although they are not required to study abroad, Japanese minors can also avail of the opportunity to study abroad in the programs approved by the department.

Japanese minors must achieve the equivalent of the Level 4 of the Japanese Foundation Proficiency Test.

The Japanese minor requirements are:

- JA 111 - PLO First Year Japanese 1
- JA 112 - PLO First Year Japanese 2
- JA 211 - PLO Second Year Japanese 1
- JA 212 - PLO Second Year Japanese 2
- JA 311 - Third Year Japanese 1
- JA 312 - Third Year Japanese 2

Spanish Minor

The **Spanish minor** requirements are to include four courses (16 credits) of course work completed at the 300-level or above. At least two of the four courses must be completed on the Elizabethtown College campus. The remaining two courses may be completed on campus, in a BCA program, or in another Department-approved study-abroad program. After completing the required course work, students must take an oral interview and receive a minimum rating of Intermediate High.

American Sign Language Courses

ASL 325 - American Sign Language
2.00 credits. Basic competency in the use and comprehension of American Sign Language and acquaints the learner with the cultural uniqueness of the deaf community.

Chinese Courses

CHN 111 - PLO Elementary Chinese I
4.00 credits. **(Power of Language Core Course)** Introduction of basic elements of the structure and the phonetic system of Chinese in culturally authentic contexts. Development of basic communication skills in five skill areas: listening, speaking, reading, writing and sociocultural awareness. Audio and videotapes supplement proficiency-oriented textbooks.

CHN 112 - PLO Elementary Chinese II
4.00 credits. **(Power of Language Core Course)** Expansion of basic elements of structure and phonetic system in culturally authentic contexts. Additional development of communicative competency in five skill areas: listening, speaking, writing, reading and sociocultural awareness. Communicative competence of a further 50 characters is acquired. Audio and videotapes supplement proficiency-oriented textbooks. **Prerequisite(s):* CHN 111.

CHN 133 - NCH Introduction to Chinese Culture and Society
4.00 **Non-Western Cultural Heritage Core Course** In this course, we will explore some of the essential facts, fascination rituals, and important values of China. The course surveys a wide range of topics such as Chinese history, festivals, rituals, food and drinks, philosophy, etc. By the end of the course, the students will have a better appreciation of China in our international community and understand how culture and values have influenced what China is today. Students will also develop skills of researching aspects of China that are interesting to them.

CHN 211 - Intermediate Chinese I
4.00 credits. Further development of oral proficiency and reading and writing skills. Greater proficiency in reading of characters. Use of authentic cultural materials and contexts heightens socio-cultural awareness. Audio and videotapes supplement texts and written materials. **Prerequisite(s):* CHN 112 or placement by examination.

CHN 212 - Intermediate Chinese II
4.00 credits. Further development of oral proficiency and reading and writing skills. Greater proficiency in reading of characters. Use of authentic cultural materials and contexts heightens socio-cultural awareness. Audio and videotapes supplement texts and written materials. **Prerequisite(s):* CHN 211 or placement by examination.

English as a Second Language Courses

ESL 111 - English as a Second Language and American Culture
4.00 credits. Development and refinement of the student's functional proficiency through grammar and essay development, audio/video materials to improve listening comprehension, and extended oral discourse. Reading selections increase reading comprehension and awareness and understanding of American culture. **Prerequisite(s):* Placement by examination and TOEFL score.

ESL 112 - English as a Second Language II
4.00 credits. Focuses on the improvement of speech, listening, reading and writing skills, emphasizing the descriptive and narrative paragraph. Audio and videotapes supplement the textbook and develop communicative competency. **Prerequisite(s):* ESL 111.

French Courses

FR 111 - PLO Elementary French I
4.00 credits. **(Power of Language Core Course)** Basic elements of structure and the phonetic system in culturally authentic contexts. The development of communicative competence in five skill areas: speaking, listening, reading, writing and sociocultural awareness. Audio and videotapes supplement proficiency-oriented textbooks.

FR 112 - PLO Elementary French II
4.00 credits. **(Power of Language Core Course)** Expansion of basic elements of structure and the phonetic system in culturally authentic contexts. Additional development of communicative competency in five skill areas: listening, speaking, writing, reading and sociocultural awareness. Audio and videotapes supplement proficiency-oriented textbooks. **Prerequisite(s):* FR 111, or placement by examination.

FR 211 - PLO Intermediate French I
4.00 credits. **(Power of Language Core Course)** Emphasizes functional proficiency. A functional-notational syllabus expands use of linguistic tasks such as asking questions, stating facts, describing, narrating and expressing feelings. Use of authentic cultural materials and contexts heightens sociocultural awareness. Audio and videotapes supplement text and written materials. **Prerequisite(s):* FR 112, or placement by examination.

FR 212 - PLO Intermediate French II
4.00 credits. **(Power of Language Core Course)** Expanded use of linguistic functions. Introduction and development of more advanced tasks such as sustaining opinions, explaining, comparing and hypothesizing. Use of authentic cultural materials and contexts heightens sociocultural awareness. Audio and videotapes supplement texts and written materials. **Prerequisite(s):* FR 211, or placement by examination.

FR 303 - Reading Authentic Texts
3.00 credits. Development of and practice in reading authentic cultural, historical and literary texts. Through the study of numerous strategies, training provided by textbook exercises, and immediate application to selections, students will learn how to read in order to read for the purpose of learning. **Prerequisite(s):* FR 212, or permission of the instructor.

FR 311 - Making of Modern French Society
4.00 credits. Analysis of important contemporary cultural phenomena and issues that have shaped and continue to shape the modern nation. Readings are taken from literary, sociological and political sources. Films, slides and audio and videotapes supplement written materials. **Prerequisite(s):* FR 212, or permission of the instructor.

FR 323 - Introduction to Literature
4.00 credits. Development of students' ability to read thoroughly, analyze and appreciate literature. Includes selected readings representative of different literary genres. **Prerequisite(s):* FR 212, or permission of the instructor.

FR 370-378 - Special Topics in French
Variable credit. Topics of special interest not otherwise covered in the curriculum. Topics depend upon student interest and faculty availability. **Prerequisite(s):* FR 212, or permission of the instructor. This course is repeatable for credit.

FR 480-489 - Independent Study in French
Variable credit. For senior language majors. Independent projects in some area of language or literature. **Prerequisite(s):* Approval of Department Chair and Independent Study Committee. Register by Instructor. This course is repeatable for credit.

FR 496 - French Senior Research Project I
2.00 credits. For senior French majors. Involves researching a literary, linguistic or cultural topic and the writing of a major paper in the French language. This capstone experience will be closely supervised by Department faculty. Fall semester.

FR 497 - French Senior Research Project II
2.00 credits. For senior French majors. Involves researching a literary, linguistic or cultural topic and the writing of a major paper in the French language. This capstone experience will be closely supervised by Department faculty. FR 496. Spring semester.

German Courses

GER 111 - PLO Elementary German I
4.00 credits. **(Power of Language Core Course)** Basic elements of structure and the phonetic system in culturally authentic contexts. The development of communicative competence in five skill areas: speaking, listening, reading, writing and sociocultural awareness. Audio and videotapes supplement proficiency-oriented textbooks.

GER 112 - PLO Elementary German II
4.00 credits. **(Power of Language Core Course)** Expansion of basic elements of structure and the phonetic system in culturally authentic contexts. Additional development of communicative competency in five skill areas: listening, speaking, writing, reading and sociocultural awareness. Audio and videotapes supplement proficiency-oriented textbooks. **Prerequisite(s):* GER 111, or placement by examination.

GER 211 - PLO Intermediate German I
4.00 credits. **(Power of Language Core Course)** Emphasizes functional proficiency. A functional-notational syllabus expands use of linguistic tasks such as asking questions, stating facts, describing, narrating and expressing feelings. Use of authentic cultural materials and contexts heightens sociocultural awareness. Audio and videotapes supplement texts and written materials. **Prerequisite(s):* GER 112, or placement by examination.

GER 212 - PLO Intermediate German II
4.00 credits. **(Power of Language Core Course)** Expanded use of linguistic functions. Introduction and development of more advanced tasks such as sustaining opinions, explaining, comparing and hypothesizing. Use of authentic cultural materials and contexts heightens sociocultural awareness. Audio and videotapes supplement texts and written materials. **Prerequisite(s):* GER 211, or placement by examination.

GER 311 - Making of Modern German Society
4.00 credits. Analysis of important contemporary cultural phenomena and issues that have shaped and continue to shape the modern nation. Readings are taken from literary, sociological and political sources. Films, slides and audio and videotapes supplement written materials. **Prerequisite(s):* GER 212, or permission of instructor.

GER 323 - Introduction to German Literature
4.00 credits. Development of students' ability to read thoroughly, analyze and appreciate literature. Selected readings representative of different literary genres. **Prerequisite(s):* GER 212, or permission of the instructor.

GER 370-378 - Special Topics in German
Variable credit. Topics of special interest not otherwise covered in the curriculum. Topics depend upon student interest and faculty availability and may include "Business German" and "German Film." **Prerequisite(s):* GER 212, or permission of the instructor. This course is repeatable for credit.

GER 480-489 - Independent Study in German
Variable credit. For senior language majors. Independent projects in some area of language or literature. **Prerequisite(s):* Approval of Department Chair and Independent Study Committee. Register by Instructor. This course is repeatable for credit.

GER 496 - German Senior Research Project I
2.00 credits. For senior German majors. Involves researching a literary, linguistic or cultural topic and the writing of a major paper in the German language. This capstone experience will be closely supervised by Department faculty. Fall semester.

GER 497 - German Senior Research Project II
2.00 credits. For senior German majors. Involves researching a literary, linguistic or cultural topic and the writing of a major paper in the German language. This capstone experience will be closely supervised by Department faculty. GER 496. Spring semester.

Japanese Courses

JA 111 - PLO First Year Japanese 1
4.00 credits. **(Power of Language Core Course)** Introduction to contemporary Japanese language designed for the acquisition of basic communication skills in listening, speaking, reading and writing. Two of the scripts, Hiragana and Katakana, will be introduced. Audio and videotapes supplement proficiency-oriented textbooks. Aimed at students with no prior knowledge of Japanese.

JA 112 - PLO First Year Japanese 2
4.00 credits. **(Power of Language Core Course)** Building upon JA 111, focus will be on furthering oral and aural proficiency already acquired. Students will be introduced to Kanji and proficiency in about 50 of them will be acquired. **Prerequisite(s):* JA 111, or placement by examination.

JA 211 - PLO Second Year Japanese 1
4.00 credits. **(Power of Language Core Course)** Further development of oral proficiency and reading and writing skills at the high elementary level of instruction. Proficiency in Kanji is increased to about 100. Japanese word processing is introduced. Designed to equip students with the ability to acquire Level Four of the Japanese Language Proficiency Test (JLPT) administered by the Japan Foundation. **Prerequisite(s):* JA 112, or placement by examination.

JA 212 - PLO Second Year Japanese 2
4.00 credits. **(Power of Language Core Course)** Building upon JA 211, this course further enhances skills in listening, speaking, reading and writing and increases understanding of Japanese culture. Additionally an e-mail exchange program is introduced with students at Nihon University, Japan. Proficiency in Kanji is aimed at 250. **Prerequisite(s):* JA 211, or placement by examination.

JA 240 - NCH History of Japanese Are and Aesthetics (ART 240)
4.00 credits. **(Non-Western Cultural Heritage Core Course)** This course introduces students to the history of the art and aesthetic sensibilities of the Japanese people from prehistoric times to the modern period. Through this course, students will develop an appreciation for the major trends in Japanese art and the historical milieu in which these were produced. Major works of art from each historical era will be studied, including architecture, sculpture, painting and pottery, as well as some of the minor arts such as gardens, calligraphy, textiles, etc. Besides understanding the making of the actual works of art, students will also understand the aesthetic principles that

inform the making of these objects, such as miyabi, yugen, wabi-sabi, that are central to Japanese cultural history. Spring semester.

JA 245 - NCH From Anime to Zen: Japanese Society, Business, and Culture
4.00 credits. **(Non-Western Cultural Heritage Core Course) *A Guided Writing and Research Course.** The course provides a broad introduction to Japanese society and culture by introducing students to daily life in Japan, discussing the importance of various Japanese religious, political, and economic institutions. It is designed to stimulate student interest in the study of Japan. *A Guided Writing and Research Course.

JA 311 - Third Year Japanese 1
4.00 credits. Designed for student with credit in JA 212, this course aims at developing further control of the grammar, vocabulary and idioms of spoken Japanese with a proficiency in Kanji reaching 350. **Prerequisite(s):* JA 212.

JA 312 - Third Year Japanese 2
4.00 credits. This course trains students in intermediate Japanese skills in speaking, listening, reading and writing. With this course, the student will complete learning of all the basic grammatical patterns of Japanese language and will have the ability to acquire Level Three of the Japanese Language Proficiency Test (JLPT) administered by the Japan Foundation. **Prerequisite(s):* JA 311.

JA 370-378 - Special Topics in Japanese
Variable credit. Topics of special interest not otherwise covered in the curriculum. Topics depend upon student interest and faculty availability. This course is repeatable for credit.

JA 411 - Fourth Year Japanese 1
4.00 credits. Further development of proficiency in both rapid and close reading skills. This course focuses on readings from different fields such as anthropology, history, linguistics and literature. **Prerequisite(s):* JA 312.

JA 412 - Fourth Year Japanese 2
4.00 credits. Analysis of important contemporary cultural phenomena and issues that have shaped and continue to shape the modern nation. Readings are taken from literary, sociological and political sources. Audio and videotapes supplement written materials. **Prerequisite(s):* JA 411.

JA 480-489 - Independent Study in Japanese
Variable credit. For senior language majors. Independent projects in some area of language or literature. **Prerequisite(s):* Approval of the Independent Study Committee. Register by Instructor. This course is repeatable for credit.

JA 496 - Japanese Senior Research Project I
2.00 credits. For Japanese majors. An extended research or translation project on a topic in Japanese literature, culture or language utilizing some source materials in Japanese. This capstone experience will be closely supervised by Department faculty. Fall semester.

JA 497 - Japanese Senior Research Project II
2.00 credits. For Japanese majors. An extended research or translation project on a topic in Japanese literature, culture or language utilizing some source materials in Japanese. This capstone experience will be closely supervised by Department faculty. JA 496. Spring semester.

Spanish Courses

SP 111 - PLO Elementary Spanish I
4.00 credits. **(Power of Language Core Course)** Basic elements of structure and the phonetic system in culturally authentic contexts. The development of communicative competence in five skill areas: speaking, listening, reading, writing and sociocultural awareness. Audio and videotapes and computer work supplement proficiency-oriented textbooks.

SP 112 - PLO Elementary Spanish II
4.00 credits. **(Power of Language Core Course)** Expansion of basic elements of structure and the phonetic system in culturally authentic contexts. Additional development of communicative competency in five skill areas: listening, speaking, writing, reading and sociocultural awareness. Audio and videotapes and computer work supplement proficiency-oriented textbooks. **Prerequisite(s):* SP 111, or placement by examination.

SP 211 - PLO Intermediate Spanish I
4.00 credits. **(Power of Language Core Course)** Review and expansion of basic Spanish grammar and vocabulary at the intermediate level in the four skills of speaking, listening, writing and reading. In-class work develops oral proficiency at the intermediate level; out-of-class work, including online assignments and work with carefully selected website materials, enhances writing and reading proficiencies. Sociocultural awareness is developed through audio and video resource materials that supplement proficiency-oriented materials. **Prerequisite(s):* SP 112, or placement by examination.

SP 212 - PLO Intermediate Spanish II
4.00 credits. **(Power of Language Core Course)** Continued review and expansion of basic grammar and vocabulary introduced in Spanish 211 in the four skills of speaking, listening, writing and reading. Development of more advanced tasks such as describing, narrating and hypothesizing. In-class work develops oral proficiency at the intermediate level; out-of-class work, including online assignments and continued work with selected website materials, enhances writing and reading proficiencies. Sociocultural awareness is developed through audio and video resource materials that supplement proficiency-oriented materials. **Prerequisite(s):* SP 211, or placement by examination.

SP 305 - Spanish Conversation
4.00 credits. Development and practice of oral skills for self-expression in Spanish. Emphasis on aural comprehension and fluency in the use of everyday Spanish. Small group discussions and oral presentations in Spanish based on current cultural, ethical and political topics will be the principal means of accomplishing this goal. **Prerequisite(s):* SP 212, placement by examination, or permission of the instructor.

SP 312 - Modern Spain
4.00 credits. A selective study of Spain's cultural heritage to an understanding and appreciation of contemporary Spanish society. The course offers an interdisciplinary treatment of diverse aspects of modern Spanish society, including geography, politics/government, regionalism, cultural identity, immigration, language policy, popular culture, and societal structure, to name a few. The course examines cultural adaptations and changes, drawing upon historical precedent wherever appropriate. Films and Internet/ mass media resources support topics under discussion. **Prerequisite(s):* SP 212 or placement. Alternating spring semesters.

SP 314 - Modern Hispanic America
4.00 credits. A selective study of the shared cultural heritages among Hispanic American societies to an understanding and appreciation of contemporary life. The course offers an interdisciplinary treatment of diverse aspects of modern society, including geography, politics/government, religion, Indigenismo, regionalism, cultural

identity, language policy, popular culture, and societal structure, to name a few. Films and Internet/ mass media resources support topics under discussion. **Prerequisite(s):* SP 212 or placement. Alternating spring semesters.

SP 315 - Spanish Grammar and Composition
This course builds on the Spanish grammar previously studied at the Intermediate level to improve students' reading, speaking and writing skills in Spanish through an in-depth study of standard Spanish grammar. Special attention will be given to the more problematic aspects of Spanish grammar for English speakers. Students will develop advanced writing skills through composition assignments. **Prerequisite(s):* SP 212, placement by examination, or placement by examination.

SP 319 - Spanish Linguistics
4.00 credits. Surveys current linguistic research on the structure and dialectal (sociological and geographic) variation of the Spanish language. A contrastive analysis of Spanish and English phonology, morphology, syntax and semantics develops the student's ability to understand the major structural differences between these languages. Students develop an appreciation of native speakers' perceptions regarding their own language. One hour per week in class and out-of-class assignments with audio materials are devoted to the development of native-live pronunciation. **Prerequisite(s):* SP 212, placement by examination, or permission of the instructor.

SP 323 - Introduction to Literature
4.00 credits. Development of students' ability to read thoroughly, analyze and appreciate literature. Selected readings representative of different literary genres. **Prerequisite(s):* SP 212, placement by examination, or permission of the instructor.

SP 325 - Spanish Service Learning
4.00 credits. This Spanish service-learning course fosters students’ conversational proficiency in Spanish and their intercultural competence in Spanish-speaking settings. Students apply these skills in educational settings, experience the mutual benefits of community service-learning, and discover opportunities for becoming civically engaged and employing their Spanish skills in the broader community. Students must be available to do service on Tuesday evenings from 6:00 p.m.-8:00 p.m. **Prerequisite(s):* SP 212, placement by examination, or permission of the instructor. Offered every semester.

SP 370-378 - Special Topics in Spanish
Variable credit. Topics of special interest not otherwise covered in the curriculum. Topics depend upon student interest and faculty availability. **Prerequisite(s):* SP 212, placement by examination, or permission of the instructor. This course is repeatable for credit.

SP 480-489 - Independent Study in Spanish
Variable credit. Independent projects in some area of Spanish language or literature. **Prerequisite(s):* Approval of Department Chair and Independent Study Committee. Register by Instructor. This course is repeatable for credit.

SP 496 - Spanish Senior Research Project I
2.00 credits. For senior Spanish majors. Involves researching a literary, linguistic or cultural topic and the writing of a major paper in the Spanish language. This capstone experience will be closely supervised by Department faculty. Fall semester.

SP 497 - Spanish Senior Research Project II
2.00 credits. For senior Spanish majors. Involves researching a literary, linguistic or cultural topic and the writing of a major paper in the Spanish language. This capstone experience will be closely supervised by Department faculty. SP 496. Spring semester.

Department of Occupational Therapy

Ericksen (Chair), Achenbach, Hample, Humbert, Leimbach, Panchik, Potter, Salvadia, Steadman, Waltermire

For more information, please visit the Department's website or check your course syllabi, which are available through the course instructor or at the High Library.

Occupational Therapy is a health profession that helps to improve the well-being and functions of people with developmental delay and physical and psychological dysfunction. The student in occupational therapy undertakes a program that integrates the humanities and the behavioral and physical sciences with professional study. The primary objective is to prepare the student as a generalist practitioner who is qualified for employment in hospitals, community agencies, schools, rehabilitation centers, extended-care facilities and related human services agencies. With this foundation, the beginning therapist can progress to specialized areas of clinical practice as well as research, administration and academia.

Degree Program

Elizabethtown College offers a combined BS/MS Occupational Therapy program that requires five years of academic study and six months of clinical fieldwork. The program awards both a **Bachelor of Science in Health and Occupation** and a **Master of Science in Occupational Therapy**.

Mission

To educate students to become highly qualified occupational therapy practitioners who can actively contribute to the profession through service, scholarship and leadership and to promote occupational justice for all people.

Core Values

The Core Values of the Occupational Therapy (OT) program are:

Exceptionally prepared entry-level master's occupational therapy practitioners. Educating practitioners who are able to engage in reflective practice based on clinical reasoning; who have a solid foundation of skills and knowledge; who demonstrate a thorough understanding of research and its relation to evidenced-based practice; and who value the ethos of professionalism and the ethics of lifelong learning.

Human occupation. Emphasizing the understanding of human occupations across cultural and social groups and as they relate to the therapeutic process and healthy well-being. Occupational Therapy courses bridge the understanding gap between occupational performance and liberal arts learning through case studies, discussion and active learning.

Occupational justice. Emphasizing the right that all individuals have to maintain a healthy balance of meaningful occupations. This involves helping others to participate in meaningful and balanced occupations.

Globally aware students. Emphasizing the need for multicultural awareness and international understanding as a prerequisite for occupational therapy practice. International and service experiences enable our students to interact effectively in culturally diverse practice settings. Service-learning and civic engagement are valued components of our program.

Liberal arts foundation. Emphasizing the role of the liberal arts education in developing personal character, critical thinking, ethical problem solving and communication. Occupational therapy at Elizabethtown College has a proud tradition of educating students for a professional discipline in a liberal arts environment.

Honors in the Discipline

The Department of Occupational Therapy supports many opportunities for students and academic recognition. The Department participates in the College Honors in the Discipline Program. Bachelor of Science students are notified of Honors eligibility during the junior year. Students with an Occupational Therapy grade point average of 3.50 or higher also are considered candidates for the national occupational therapy honor society, Pi Theta Epsilon.

Level II Fieldwork

Fieldwork provides the student with the opportunity to apply clinical skills in occupational therapy practice settings. Fieldwork experiences usually occur the summer between the fourth and fifth year and following the fifth year. Elizabethtown College has established relations with more than 300 clinical sites locally and throughout the United States. Fieldwork Coordinators match students with appropriate settings based primarily on student career goals, student learning needs, and geographical considerations. Additional expenses for living and housing often are incurred as students complete Level II Fieldwork assignments. Individual fieldwork sites also may require students to meet health requirements (e.g., TB test, current immunizations, etc.), participate in training for Universal Precautions, and pass criminal and child safety background checks. Students must achieve a score of "Pass" from clinical supervisors in order to be eligible to attain the Master of Science degree. Students are required to complete 24 weeks of full-time fieldwork or its equivalent of Level II fieldwork within 12 months of completing graduate coursework.

NOTE: Effective with the matriculating class of 2014, Level II Fieldwork (OT 591-594) will be credit-bearing courses.

Professional Accreditation

The Occupational Therapy program has maintained a fully-accredited status since the initial in 1976 by the Accreditation Council for Occupational Therapy Education (ACOTE). The organization can be contacted at ACOTE, c/o Accreditation Department, American Occupational Therapy Association (AOTA), 4720 Montgomery Lane, Suite 200, Bethesda, MD 20814-3449; (phone) 301-652-2682; (fax) 301-652-1417; www.acoteonline.org.

Occupational Therapy (M.S.)

Student Learning Outcomes for Occupational Therapy:

Students will be able to:

- Demonstrate the ability to effectively collaborate with others (colleagues, professional contacts, clients, faculty, etc.).
- Recognize opportunities and construct plans to influence change and enhance occupational performance for individuals, populations, and organizations.

- Engage in occupational therapy practice that integrates critical thinking, reflective practice, creativity, and ethical reasoning in the occupational therapy process.
- Design and implement evaluations and interventions that are occupation-centered and theory-based, with entry-level competence.
- Contribute to the body of evidence that supports traditional and emerging occupational therapy practice and/or the understanding of human occupation.

The **Master of Science in Occupational Therapy** requires one year of academic study and six months of clinical Level II Fieldwork with the requirements listed below. **To begin the master's program in occupational therapy, students must have successfully completed their bachelor's degree in Health and Occupation.** Successful completion of the Master of Science in Occupational Therapy affords the student the opportunity to take the National Board of Certification in Occupational Therapy (NBCOT) Exam and to become licensed to practice occupational therapy as an individual jurisdiction requires. **Please note: a felony conviction may affect an individual's qualification to take the NBCOT certification exam and/or obtain professional credentials.**

The Master of Science in Occupational Therapy requires:

- OT 501 - Research II: Designing Research for Practice, Part 1
- OT 502 - Research III: Changing Practice Through Research
- OT 510 - Administration, Management and Supervision
- OT 528 - Advanced Clinical Reasoning I
- OT 529 - Advanced Clinical Reasoning II
- OT 530 - Preparation for Practice
- OT 551 - Research II: Designing Research for Practice, Part 2
- OT 555 - Publication and Grant Writing Seminar
- Minimum of eight graduate electives credits (No graduate elective may be taken as a Directed Study.)

Additional requirements to attain the Master of Science in Occupational Therapy degree:

Maintain a minimum OT grade point average of 3.00.

Achieve a minimum grade of C- in all graduate courses. College policies on repeating courses apply to graduate study.

Students must pass both Level II Fieldwork experiences. Only one Level II failure may be repeated. Students are required to complete 24 weeks of full-time fieldwork or its equivalent of Level II fieldwork within 12 months of completing graduate coursework.

Note: For the matriculating class of 2014 and beyond Level II Fieldwork (OT591 – OT594) will carry academic credit.

Health and Occupation (B.S.)

Student Learning Outcomes for Health and Occupation:

Students will be able to:

- Demonstrate professionalism through effective oral and written communication.
- Demonstrate professionalism through interpersonal relationships.
- Analyze the factors that enable and/or hinder participation in meaningful occupations across the lifespan in multiple contexts.
- Demonstrate critical self-reflection, promoting independent learning.
- Recognize the importance of occupation and its influence on health and wellness by systematically selecting and critiquing evaluations and interventions that are client-centered and occupation-based.
- Analyze the body of evidence that relates to the understanding of health and human occupation.

This degree serves as a prerequisite to the Master of Science in Occupational Therapy. Students completing only this course of study are not eligible to become registered occupational therapists, but have academic credentials that qualify them to be employed in health care and community settings.

The Health and Occupation major requires:

Off-campus experiential learning includes service-learning and clinical placements.

- OT 111 - Basic Concepts in Occupation
- OT 112 - Occupation as Therapy
- OT 223 - Childhood Development and Occupations Active Learning Lab
- OT 224 - Development and Occupations of Adulthood
- OT 227 - Occupations and Models of Practice in Occupational Therapy
- OT 228 - Group Process Applied Learning Lab
- OT 318 - Kinesiology Applied Learning Lab
- OT 327 - Pathology I
- OT 331 - Fundamentals of the Occupational Therapy Process
- OT 332 - Enabling Occupations: Cognitive and Perceptual Dimensions
- OT 427 - Pathology II
- OT 433 - Enabling Occupations: Musculoskeletal Dimensions
- OT 434 - Enabling Occupations: Psychosocial Dimensions
- OT 435 - Enabling Occupations: Neuromuscular Dimensions
- OT 440 - Health Care Systems
- OT 450 - Research I: Understanding Evidence in Practice
- BIO 111 - Molecules, Cells, and Animal Systems
- BIO 201 - Human Anatomy and Physiology I
- BIO 202 - Human Anatomy and Physiology II
- MA 251 - MA Probability and Statistics
- PSY 105 - SSC General Psychology
- PSY 111 - NPS Introduction to Neuroscience

Additional requirements for the Bachelor of Science in Health and Occupation:

All OT students (including transfers) must take Anatomy and Physiology (BIO 201 and BIO 202) at Elizabethtown College.

OT students must achieve a grade of C- or higher in all required courses, including all courses with an OT prefix; MA 251; PSY 105 and PSY 111; and BIO 111, BIO 201 and BIO 202. Students may repeat courses in accordance with College policies. Students choosing to repeat a course required for the major are strongly encouraged to discuss repeat options with their academic advisors.

Students must achieve an overall cumulative grade point average of 2.00 to earn a Bachelor of Science in Health and Occupation.

Requirements for admission into Level II Fieldwork and the Graduate Program:

OT students must achieve a minimum cumulative grade point average of 3.00.

Students also must complete an essay to capstone their professional development in conjunction with their academic advisor. The purpose of this essay is to identify professional growth goals for entry-level practice as described by May, et al. (1995). No student will be excluded from the graduate program based on the essay. If the composition does not meet the required expectations, repeated drafts guided by the academic advisor may be necessary. Essays are due to the Department Chair by May 1.

Occupational Therapy Courses

OT 111 - Basic Concepts in Occupation
4.00 credits. An introduction to the conceptual framework for understanding of the occupational and adaptive nature of humans, including concepts that constitute performance areas and those that environmentally influence individuals in performance. Students explore their own motivation, personalities, learning styles and values as a first step in considering themselves as therapeutic resources. Students also explore the beneficial aspects of activity, specifically the world of making and doing. They engage in reflection on the relationships between self and activities and in the process of assessing and evaluating the interrelated elements of activities. **Prerequisite(s):* Permission of the instructor for nonmajors, **Corequisite(s):* OT 111L. Fall semester. Register by Instructor.

OT 112 - Occupation as Therapy
4.00 credits. An introduction to disability and the use of occupation as therapy. Types and consequences of disability are explained. Students learn about the historical, philosophical and ethical development of the profession of occupational therapy. Roles and functions of occupational therapy personnel, the nature and processes of professional reasoning in the practice of occupational therapy, and the major theories related to occupational performance and occupational behavior are introduced. **Prerequisite(s):* OT 111 and majors only. Spring semester.

OT 223 - Childhood Development and Occupations Active Learning Lab
4.00 credits. An examination of childhood development with a focus on occupational performance from conception through adolescence. An emphasis is placed on typical patterns of activity, holistically considering the biophysical, cognitive and psychosocial aspects of development. Lab, community-based, and service-learning opportunities will supplement lecture discussions and other active-learning strategies. **Prerequisite(s):* Permission of the instructor for nonmajors. Fall semester.

OT 224 - Development and Occupations of Adulthood
4.00 credits. An examination of the developmental spectrum throughout the adult years. An emphasis is placed on occupational performance and how changing performance in biophysical, cognitive and psychosocial domains influence role satisfaction and performance. Community-based and service-learning opportunities supplement lecture discussions and other active-learning strategies. **Prerequisite(s):* OT 223 or permission of the instructor for nonmajors. Spring semester.

OT 227 - Occupations and Models of Practice in Occupational Therapy
3.00 credits. This course builds the students' knowledge of occupation-based practice models and occupational performance by providing in-depth model analysis and application. A complex analysis of occupations and occupational performance tasks, across the lifespan, in the areas of self-care, work/education and play/leisure is presented. The major occupation-based models in the discipline of Occupational Therapy will be compared and contrasted. The course emphasizes knowledge, skills, and application of occupation analysis including experiential field observations. **Prerequisite(s):* OT 111. Spring semester.

OT 228 - Group Process Applied Learning Lab
2.00 credits. Provides opportunities for the student to experience and apply integrated knowledge related to group process and group dynamics. Group process is studied from a variety of perspectives. While an emphasis is placed on activity-focused therapeutic groups, attention also is given to normal group processes (such as interdisciplinary team functioning, committee group work, and/or staff meetings). Students enhance their ability to analyze personal, professional and clinical factors influencing effective group process. **Prerequisite(s):* or **Corequisite(s):* OT 112 and majors only. Spring semester.

OT 318 - Kinesiology Applied Learning Lab
4.00 credits. Application of the principles of functional anatomy with an emphasis on normal and abnormal movement. Measurement techniques for range of motion and muscle testing are presented. Concepts are integrated in lab experiences. **Prerequisite(s):* BIO 201 or permission of the instructor for nonmajors. Fall semester.

OT 327 - Pathology I
3.00 credits. Familiarizes students with common diagnoses, conditions and disorders encountered in the clinical practice of occupational therapy. An emphasis will be placed on understanding incidence/epidemiology, etiology, diagnosis, symptomatology, prognosis, and medical/educational/psychological interventions of selected neurological and/or psychological conditions. **Prerequisite(s):* BIO 202, PSY 105, PSY 111, OT 224, and majors only. **Corequisite(s):* OT 332, OT 332S, OT 332F. Spring semester.

OT 331 - Fundamentals of the Occupational Therapy Process
2.00 credits. A guide through the occupational therapy process, including evaluation, treatment and discharge planning using case examples to explore clinical reasoning activities. An understanding of research as it influences the occupational therapy process is established. In addition, professional association guidelines for documentation, professional roles (e.g., COTA, OTR) and ethical concepts are applied to the occupational therapy process. **Prerequisite(s):* OT 112. Spring semester.

OT 332 - Enabling Occupations: Cognitive and Perceptual Dimensions
4.00 credits. Focuses on sensory and cognitive performance components that impact occupational performance areas. Students learn to apply the Occupational Therapy process to practice for individuals with sensory and/or cognitive deficits resulting from central nervous system disorders, peripheral nerve injury, head trauma, Alzheimer's disease, developmental disabilities and schizophrenia and other conditions. **Prerequisite(s):* OT 224, OT 227, OT 228, and majors only. **Corequisite(s):* OT 327, OT 332F and 332S.
Spring semester.

OT 370-378 - Special Topics in Health and Occupation
2.00 credits. A series of courses with topics not otherwise covered in the curriculum. Offered when student interest and faculty availability justify. **Prerequisite(s):* Permission of the instructor. This course is repeatable for credit.

OT 427 - Pathology II
3.00 credits. Focus is primarily on physiological and motor disorders (including medical and surgical conditions) in addition to more complex conditions involving both neurological and physiological conditions. Emphasis on

etiology, symptomatology, prognosis and treatment methods. **Prerequisite(s):* BIO 202, PSY 111, OT 224, and majors only. Fall semester.

OT 433 - Enabling Occupations: Musculoskeletal Dimensions
4.00 credits. Students learn to apply the occupational therapy process of evaluation, treatment planning, and treatment to people with deficits in musculoskeletal or neurological systems. **Prerequisite(s):* OT 318, OT 327, OT 331, and majors only. **Corequisite(s):* OT 433F. Fall semester.

OT 434 - Enabling Occupations: Psychosocial Dimensions
4.00 credits. Focuses on the application of psychosocial treatment in occupational therapy. Exposure to frames of reference and theories as guidance for clinical reasoning for persons of different ages with physical, cognitive and/or psychological disabilities. Special attention is given to persons with mental illness as the primary diagnosis. Theoretical concepts, evaluation tools and therapeutic techniques are integrated with fieldwork experience. **Prerequisite(s):* OT 228, OT 327, and majors only. **Corequisite(s):* OT 434F and OT 434S. Spring semester.

OT 435 - Enabling Occupations: Neuromuscular Dimensions
2.00 credits. Students learn the impact of neurological or musculoskeletal deficits on occupational performance and methods of remediation of function. **Prerequisite(s):* OT 433 and majors only. Spring semester.

OT 440 - Health Care Systems
3.00 credits. A study of the development of health care systems in the United States. Includes administrative structure, payment systems, quality assurance, regulations and legislative issues.

OT 450 - Research I: Understanding Evidence in Practice
3.00 credits. This is the first in a two-course series designed to engage the learner in study of the research process, design and methodology related to the practice of occupational therapy. Students are expected to become critical consumers of research and are prepared to actively engage in the research process following course completion. Both qualitative and quantitative research designs are investigated. **Prerequisite(s):* MA 251. Fall semester.

OT 475 - Health Internship
0.00 credit. Alternative internship experience in a health setting that is approved by the Department of Occupational Therapy. This experience allows students to apply skills and knowledge gained through academic work in a related service agency, health care facility, or community setting. **Prerequisite(s):* OT 332 and OT 434. Graded Pass/No Pass. Register by Instructor. This course is repeatable for credit.

OT 480-489 - Independent Study in Occupational Therapy
Variable credit. The purpose of this course is to offer advanced students opportunity to study specialized areas not otherwise included in the curriculum. **Prerequisite(s):* Approval of the Department Chair and Independent Study Committee. Register by Instructor. This course is repeatable for credit.

OT 492 - Undergraduate Scholarship Practicum I
Variable (2.00 or 4.00) credits. An original scholarship project planned, implemented and written by students with substantive supervision and consultation with faculty. Any occupational therapy student may petition to take this course. All students who qualify for the Honors in the Discipline will be extended an invitation to use this course for scholarship endeavors. Students must obtain permission of the professor who they wish to serve as their scholarship mentor prior to enrollment and must submit for IRB approval. Scholarship used as Honors in the Discipline must have a minimum of four credits, maximum of four credits for any student across OT 492 and/or OT 494. This is not an occupational therapy curricular required course. Graded Pass/No Pass. Register by Instructor. Fall semester.

OT 494 - Undergraduate Scholarship Practicum II
Variable (2.00 or 4.00) credits. An original scholarship project planned, implemented and written by students with substantive supervision and consultation with faculty. Any Occupational Therapy student may petition to take this course. All students who qualify for the Honors in the Discipline will be extended an invitation to use this course for scholarship endeavors. Students must obtain permission of the professor whom they wish to serve as their scholarship mentor prior to enrollment and must submit for IRB approval. Scholarship used as Honors in the discipline must have a minimum of four credits, maximum of four credits for any student across OT 492 and/or 494. This is not an Occupational Therapy curricular required course. Graded Pass/No Pass. Register by Instructor. Spring semester.

OT 501 - Research II: Designing Research for Practice, Part 1
2.00 credits. The first in a two-course series designed to allow students to explore in depth an area of interest and to complete a project of significance to the profession of occupational therapy. Projects will be clinical, service and/or research based. In this course, students will do a comprehensive review of relevant literature and will develop a proposal describing all project elements. **Corequisite(s):* OT 551. Register by Instructor. Fall semester.

OT 502 - Research III: Changing Practice Through Research
4.00 credits. The second in a two-course series designed to allow students to explore in depth an area of interest and to complete a project of significance to the profession of occupational therapy, projects are clinical, service and/or research based. Students complete all of the project elements as described in the proposal. The project results in a document appropriate for publication and in a formal oral presentation. **Prerequisite(s):* OT 501 and OT 551. **Corequisite(s):* OT 555. Register by Instructor. Spring semester.

OT 510 - Administration, Management and Supervision
4.00 credits. An introduction to the principles of management in the provision of occupational therapy services. Focus is on developing skills in program planning and evaluation; administration and management of occupational therapy Departments and multidisciplinary programs and community agencies; and occupational therapy consultation with individuals and organizations. Topics include quality improvement, financial management, personnel management, leadership and team building. Register by Instructor. Fall semester.

OT 528 - Advanced Clinical Reasoning I
3.00 credits. Students use advanced clinical reasoning to analyze a variety of complex cases from diverse populations and cultures. Students will synthesize procedural, interpersonal, environmental, pragmatic and cultural issues. Emphasis is given to advanced concepts and theories within the context of the students' accumulated knowledge and previous fieldwork experience. Register by Instructor. Fall semester.

OT 529 - Advanced Clinical Reasoning II
3.00 credits. A variety of advanced practice issues in the field of occupational therapy are covered. Students develop advanced knowledge in specialty areas of occupational therapy practice. Emphasis is given to ethical principles as they apply to occupational therapy practice. **Prerequisite(s):* OT 528. Register by Instructor. Spring semester.

OT 530 - Preparation for Practice
1.00 credit. This course provides a capstone experience that will synthesize the undergraduate preparation in the Practice Course series and further students' understanding of professional practice issues such as fieldwork supervision and lifelong learning through continuing education. The focus of the course will be integration and synthesis of undergraduate curricular content related to attainment of certification and professional practice issues. **Prerequisite(s):* B.S. in Health and Occupation or B.S. in Occupational Therapy. Graded Pass/No Pass. Register by Instructor. Spring semester

OT 541 - Acute Care and Rehabilitation Elective
4.00 credits. This course emphasizes the practice skills and knowledge essential to practicing in medical model acute and rehabilitation areas with applications to both adult and pediatric populations. Students will explore advanced study in technology, documentation and treatments of these traditional medical model practice venues. Advanced splint construction, hand therapy, physical agents/modalities, and other acute issues models will be studied. Case studies apply traditional occupational therapy practice to individuals with physical disabilities. **Prerequisite(s):* B.S. in Health and Occupation or B.S. in Occupational Therapy. Register by Instructor.

OT 543 - Topics in Gerontology Elective
4.00 credits. This course enables students to gain content knowledge and expertise in the practice area of interest. This elective emphasizes geriatric occupations, wellness and clinical practice. **Prerequisite(s):* B.S. in Health and Occupation or B.S. in Occupational Therapy. Register by Instructor. Fall semester.

OT 544 - Mental Health and Wellness Elective
Variable (2.00 or 4.00) credits. This course increases student knowledge of occupational therapy services in the context of health and wellness and mental health. Students will strengthen their understanding of the roles played by occupational therapists in these areas of practice, the theories that are applied and the contexts of occupational therapy in community-based practice areas. **Prerequisite(s):* B.S. in Health and Occupation or B.S. in Occupational Therapy. Register by Instructor.

OT 545 - School System Practice Elective
4.00 credits. This course is designed to allow students to explore in depth the area of school-based practice. Students will learn and discuss current legislation governing therapy practice in general and special education in both public and private school arenas as well as best practice models for screening/evaluation, direct and consultative service delivery, and efficacy research. In addition to in-class lecture content, students will participate in seminars and service-learning or specialty fieldwork. **Prerequisite(s):* B.S. in Health and Occupation or B.S. in Occupational Therapy. Register by Instructor. Fall semester.

OT 547 - Topics in Pediatrics Elective
4.00 credits. Students will advance their understanding of childhood occupations, family systems, and pediatric models of practice. Since pediatric practice involves a sophisticated balance of conditional, pragmatic, narrative, interactive, procedural, and ethical clinical reasoning; a case-based approach to learning will be a primary mode of teaching. Specific topics addressed in this course are guided by student interest and faculty expertise. Experiential learning in community settings may also be used to support the students' learning. **Prerequisite(s):* B.S. in Health and Occupation. Register by Instructor.

OT 548 - Women and the Creative Process Elective
4.00 credits. This course uses experimental and collaborative feminist teaching methodologies to expose students to gender, class, race and cultural issues relative to women in the visual arts, as well as to occupational concepts regarding visual arts. Laboratory experiences will engage students in traditional and contemporary textile art media, with contemporary quilt-making serving as the unifying occupational element to integrate various textile art skills. **Prerequisite(s):* B.S. in Health and Occupation or B.S. in Occupational Therapy. Register by Instructor.

OT 549 - OT Practice and Research in International Contexts Elective
4.00 credits. This elective course is designed to increase student knowledge of occupational therapy practice and research in the context of international practice. This course will facilitate student knowledge and application of alternative, cultural paradigms in understanding occupation; various occupational therapy theories that are utilized in practice throughout the world; the roles played by practitioners in international practice and research; the organizations and contextual issues surrounding this practice; and the complex ethical considerations in international practice. **Prerequisite(s):* B.S. in Health and Occupation or B.S. in Occupational Therapy. Register by Instructor.

OT 551 - Research II: Designing Research for Practice, Part 2
3.00 credits. Students are provided the opportunity to apply research concepts and knowledge to occupational therapy practice issues, and design and implement beginning-level research studies. Entry-level research experience that will empower students with the foundational skills necessary to engage in professional research is provided. **Corequisite(s):* OT 501. Register by Instructor. Fall semester.

OT 555 - Publication and Grant Writing Seminar
4.00 credits. Students' skills in professional writing are developed to write professionally for target audiences by tailoring content and form to specifically stated guidelines (e.g. grant proposals, program evaluations, manuscripts for publication, Representative Assembly resolutions). **Corequisite(s):* OT 502. Register by Instructor. Spring semester.

OT 580 - Master's Level Independent Study
Variable credit. Independent Study option for students in the Occupational Therapy Master's program. Register by Instructor. This course is repeatable for credit.

OT 590 - Graduate Project Practicum
0.00 credit. This is a non-credit bearing course designed to support the graduate student projects mentored by OT faculty and companion the graduate research sequence courses. The course provides a structure for a faculty-mentored graduate project that is inspired, planned, implemented, and then prepared for publication/ presentation. Specific projects will include: general overview of the problem, review of the literature, problem statement, methodological design that supports research questions, aggregation and summary of data, comparison of research with other studies, and a critical analysis of the research conducted. Students will have a variety of research topics from which to choose based on faculty area of clinical expertise and scholarly endeavors. **Prerequisite(s):* B.S. in Health and Occupation **Corequisite(s):* OT 501 and OT 551 in the fall and OT 502 in the spring. Graded Pass / No Pass. Register by Instructor. This course is repeatable for credit.

OT 591 - Level II Fieldwork: Psychosocial Rehabilitation
0.00 credit. Twelve weeks of Level II Fieldwork experience in the area of pyschosocial rehabilitation. To be eligible to sit for the national certification examination, the student must achieve at least the minimum passing scores on the AOTA Fieldwork Evaluation. Further information on Level II Fieldwork can be found in the Department Student Manual and the Level II Fieldwork Student Manual. **Prerequisite(s):* B.S. in Health and Occupation. Graded Pass/No Pass. Register by Instructor. Summer or fall semester. *Note: Effective with the matriculating class of 2014, this course will carry 6.00 credits.

OT 592 - Level II Fieldwork: Physical Rehabilitation
0.00 credit. Twelve weeks of Level II Fieldwork experience in the area of physical rehabilitation. To be eligible to sit for the national certification examination, the student must achieve at least the minimum passing scores on the AOTA Fieldwork Evaluation. Further information on Level II Fieldwork is in the Department Student Manual and the Level II Fieldwork Student Manual. **Prerequisite(s):* B.S. in Health and Occupation. Graded Pass/No Pass. Register by Instructor. Summer or fall semester. *Note: Effective with the matriculating class of 2014, this course will carry 6.00 credits.

OT 593 - Level II Fieldwork: Specialty
0.00 credit. Variable length of Level II Fieldwork experience in area of student's interest. Arranged on an availability basis. **Prerequisite(s):* B.S. in Health and Occupation. Graded Pass/No Pass. Register by Instructor. *Note: Effective with the matriculating class of 2014, this course will carry variable (2.00 to 6.00) credits.

OT 594 - Graduate Internship
0.00 credit. A supplemental, non-credit-bearing fieldwork experience that is intended to provide opportunities for clinical development to cover the breadth of field experiences that the student should have for entry-level positions. This fieldwork is intended to be more intensive than a Level I fieldwork but not as comprehensive as Level II. A minimum time would be two weeks, but it is likely that the sites serving more involved clients will require a minimum of three weeks of full-time fieldwork to reach the target competency level. **Prerequisite(s):* B.S. in Health and Occupation or B.S. in Occupational Therapy. Register by Instructor. Offered as needed. *Note: Effective with the matriculating class of 2014, this course will carry variable (2.00 to 4.00) credits.

Department of Physical Education and Health

Latimore (Chair), Brooks, Corcoran, Falk, Gorman, Roderick, Schlosser, Smith, Staib, Walker

The Department of Physical Education and Health's mission is to prepare students for a lifetime commitment to physical activity and well-being with an emphasis on individual fulfillment. Courses in physical education: 1) develop positive attitudes and skills leading to physical fitness and health; 2) develop discipline and commitment to goals and, in team sports, to social and moral standards such as sportsmanship and teamwork; and 3) stress awareness of beneficial and harmful health practices as they relate to physical well-being and quality of life.

No more than four credits of physical education courses may be counted toward the graduation credit requirement.

Physical Education Courses

PE 100 - Pilates and Yoga
1.00 credit. This course introduces a fitness program that incorporates both pilates and yoga. Both pilates and yoga emphasize the balanced development of the body through core strength, flexibility, and awareness. Graded Pass/No Pass.

PE 105 - Swimming
1.00 credit. Instruction in the four basic strokes, survival swimming and water safety.

PE 106 - Water Aerobics
1.00 credit. Introduces the student to different means to obtain a cardiovascular workout in the water. Graded Pass/No Pass.

PE 115 - Physical Fitness and Wellness
1.00 credit. Instruction in cardiovascular-type activities, strength, flexibility, weight control, nutrition, myths, physical activity, injury prevention and rehabilitation, safety, fitness equipment, stress, relaxation, games, exercises and the consumer-personalizing fitness, aerobic exercises.

PE 118 - Lifeguarding
1.00 credit. Provides lifeguard candidates and current lifeguards with the knowledge and skills necessary to keep the patrons of aquatic facilities safe in and around the water. Includes instruction in lifeguarding skills, CPR for the professional rescuer and first aid. Graded Pass/No Pass. Additional fee.

PE 119 - Scuba
1.00 credit. A total introduction to the use of scuba equipment and safety; includes work in the pool and classroom. Provides deep water dive certification by the Professional Association of Diving Instructors (PADI). Graded Pass/No Pass. Additional fee.

PE 120 - Aerobics
1.00 credit. Inspiration - perspiration: a diversified fitness program that will give a complete workout. Graded Pass/No Pass.

PE 125 - Tennis
1.00 credit. Rules, playing techniques and skill development.

PE 137 - Outdoor Recreation
1.00 credit. Introduction to hiking, camping, orienteering and wilderness survival skills. Additional fee. Graded Pass/No Pass.

PE 140 - Bowling
1.00 credit. Rules, playing techniques and skill development. Additional fee. Graded Pass/No Pass.

PE 146 - Racquetball
1.00 credit. Rules, playing techniques and skill development.

PE 150 - Volleyball
1.00 credit. Rules, playing techniques and skill development.

PE 161 - Adapted Physical Education 1
1.00 credit. Individual activity or collective exercise adapted to needs and abilities of the student. Graded Pass/No Pass. Register by Instructor.

PE 165 - Golf/Badminton
1.00 credit. Rules, playing techniques and skill development.

PE 175 - Archery/Badminton
1.00 credit. Rules, playing techniques and skill development.

PE 185 - Basketball
1.00 credit. Rules, playing techniques and skill development.

PE 190 - Horsemanship
1.00 credit. Basic riding positions, balance and equine safety. Discuss equine behavior, care, tack, styles and management. Graded Pass/No Pass. Additional fee.

PE 194 - Skiing
1.00 credit. Graded Pass/No Pass. Additional fee.

PE 195 - Soccer
1.00 credit. Rules, playing techniques and skill development.

PE 218 - Water Safety Instruction
1.00 credit. This course follows American Red Cross certification procedures. Graded Pass/No Pass. Additional fee.

Department of Politics, Philosophy, and Legal Studies

Kelly-Woessner (Chair), Kopko, Matteo, McClellan, McDonald, Ozkanca, G. Ricci, Silberstein

For more information, please visit the Department's website or check course syllabi, which are available through the course instructor or at the High Library.

The Department of Politics, Philosophy, and Legal Studies is a joint venture made up of the programs of political science and philosophy. While each program retains its independent majors and minors, the department has been formed in dedication to the interdisciplinary study of social, political, and ethical dilemmas, both at a national and global level. While traditional liberal arts departments are often defined by narrow disciplinary approaches, we believe that complex problems require complex solutions. The Department of Politics, Philosophy, and Legal Studies emphasizes the integration of theoretical concepts, applied learning, and problem solving strategies to prepare our students for leadership roles in an evolving, global society. The Department promotes student and faculty research on how political, social, and legal institutions shape global values and public policies. This interdisciplinary collaboration prepares students to bring multiple perspectives and approaches to the study of contemporary issues, such as human rights, peacekeeping, economic development, immigration, globalization, environmental regulation, and science policy.

The department offers three majors: Legal Studies, Philosophy, and Political Science. All three majors are grounded in the liberal arts and develop skills, knowledge, and competencies that prepare students for a variety of careers, advanced degree programs, and life experiences. The Department is committed to fostering analytical reasoning, critical thinking, and effective communication skills. The department promotes student research, real-world learning, and close faculty-student relationships.

Majors Offered

The Department offers majors in **Political Science**, **Philosophy** (with three possible tracks), and **Legal Studies**. It also contributes to the interdisciplinary program **Social Studies Certification**.

The Legal Studies major is an interdisciplinary course of study that examines the origins, development and theoretical foundations of Western political philosophy and law. Combining courses from political science, philosophy and other liberal arts disciplines, students explore issues such as justice, order, rights, the human condition, and ethical assumptions undergirding the competing concepts of human nature and society. The Legal Studies major especially is recommended for students who are considering careers in law, higher education or public service.

The Philosophy major is designed to explore fundamental issues of knowledge, value and meaning. The program promotes critical inquiry into basic questions in epistemology, ethics, science, religion, aesthetics and metaphysics. The members of the Department are dedicated to an interdisciplinary approach to philosophical questions that transcend the confines of narrowly drawn disciplinary boundaries. A major in Philosophy is an excellent preparation for those going on to graduate school and for those planning professional vocations such as law. It will prove valuable in any occupation which demands clear thinking, effective communication and the ability to understand and harmonize divergent points of view.

The Political Science major exposes students to the principal subfields of the discipline – American government, comparative government, international relations, political theory, public administration, public policy and research methods – and develops writing, oral expression, and analytical and critical thinking skills. A major in Political Science prepares students for careers in law, public administration, public policy, management, campaigns and

elections, issue advocacy, communications, the diplomatic corps and many other exciting fields in the public, private and nonprofit sectors. Beyond its worth in career terms, the study of politics and government can lead to more effective pursuit of a person's political interests as a civic responsibility or as an avocation.

Minors Offered

The Department offers minors in **Political Science** and **Philosophy**. It also contributes to several interdisciplinary minors, including **International Studies** , **Cognitive Science** and **Women and Gender Studies**.

Honors in the Discipline

The Department participates in the College Honors in the Discipline Program. For guidelines, students should consult with Dr. April Kelly-Woessner, Department Honors Coordinator.

Legal Studies (B.A.)

Student Learning Outcomes for Legal Studies:

Students will be able to:

- Formulate cogent arguments and skillfully critique the arguments of others.
- Recognize, express, and analyze arguments in texts in Western philosophy, philosophy of law, and political theory and the ability to summarize and explain difficult ideas and concepts.
- Explain concepts of right, wrong, good and bad.
- Discuss moral and social principles and their application in everyday life.
- Explain the origins, development, and theoretical foundations of Western political philosophy and law.
- Discuss the main historical answers to the central problems of Western political philosophy.
- Interpret major works of the prime thinkers in political philosophy
- Write succinctly, clearly, thoroughly, and probingly, reflecting careful attention to language, logic, and subtleties of reasoning.
- Explain philosophical and legal concepts such as justice, order, and rights.
- Discuss the metaphysical, epistemological, and ethical assumptions undergirding competing concepts of human nature and society.
- Explain the implications of political philosophy on contemporary social and political movements.

For students who are interested in law school, a strong advisory component in terms of proper course work, relevant extracurricular activities and preparation for the Law School Admissions Test (LSAT) examination is offered.

The advisor for this major is Dr. Kyle Kopko.

A Legal Studies major requires 42 hours:

- EC 101 - Principles of Macroeconomics
- PH 110 - PLE Logic and Critical Thinking
- PS 223 - History of Western Political Thought I: Ancient to Renaissance
- PS 224 - History of Western Political Thought II: Enlightenment to Modern
- PS 240 - WCH Foundations of American Democracy
- PS 301 - Mock Trial I
- PS 302 - Mock Trial II
- Modern Language at 112 level or higher. See Course Descriptions.

Sixteen credit hours (four courses) are required from the Political Science, Philosophy, and Legal Studies department and the History department, with a minimum of one course per department, chosen from the following:

- PS 290 - Judicial Process and Politics
- PS 303 - Constitutional Law I: Institutions
- PS 304 - Constitutional Law II: Rights and Liberties
- PS 305 - Philosophy of Law (PH 305)
- PS 326 - American Political Thought
- PH 213 - Philosophy of Science
- PH 255 (Search Course Descriptions listing for PH 255)
- PH 305 - Philosophy of Law (PS 305)
- HI 101 - HUM United States History to 1877
- HI 102 - HUM United States History Since 1877
- HI 115 - WCH Western Civilization II
- HI 210 - Twentieth-Century Europe
- HI 309 - American Intellectual History
- HI 311 - The Ancient World
- HI 312 - Rise of Europe, 400 - 1400

Philosophy (B.A.)

Student Learning Outcomes for Philosophy:

Students will be able to:

- Formulate cogent arguments and skillfully critique the arguments of others.
- Articulate a logically and psychologically consistent worldview, to include normative, metaphysical and epistemological elements.
- Articulate what makes life meaningful for them.
- Exhibit the capacity for critical analysis through forceful, logical argumentation in clear and consistent forms of oral and written expression. This includes both inductive and deductive reasoning.
- Exhibit a comprehensive familiarity with the main historical answers to the central problems of Western philosophy.

- Demonstrate, per our three tracks, the key applications of philosophy to a particular first-order field of study or career choice to include: applied ethics, other humanities such as English and the sciences. This illustrates our stress on interdisciplinary study.

- Demonstrate the ability to harmonize divergent points of view.

Students who major in philosophy follow one of three possible tracks: **Philosophy of Science**, **Professional Ethics** or **Humanities**. Each track combines six Department-based courses, three courses from outside the Department, and an interdisciplinary Senior Thesis.

For all the Philosophy major tracks, students must inform Registration and Records of which discipline they are using for the sequential course requirement. The first 100-level, the first 200-level, and the first 300-level courses completed in the selected discipline will be used to fulfill the sequential requirement.

Philosophy of Science track students normally will complete:

Students in the track also will be required to complete three sequential courses (100- to 300-level) in either Biology, Chemistry, Physics, Mathematics, Computer Science or one of the Social Sciences. The advisor for this track is Dr. Michael Silberstein.

- PH 110 - PLE Logic and Critical Thinking
- PH 115 - HUM Ethics
- PH 201 - WCH History of Western Philosophy I
- PH 202 - WCH History of Western Philosophy II
- PH 213 - Philosophy of Science
- 370-level Special Topics Seminar in Philosophy of Natural or Social Science
- PH 490 - Senior Thesis in Philosophy

Professional Ethics track students normally will complete:

Students in this track also will be required to complete three sequential courses (100- to 300-level) in a professional area of study, such as Business, Communications or Education. The advisor for this track is Dr. Anthony Matteo.

- PH 110 - PLE Logic and Critical Thinking
- PH 115 - HUM Ethics

- PH 201 - WCH History of Western Philosophy I or
- PH 202 - WCH History of Western Philosophy II

- 370-level Special Topics Seminar in Ethical Theory
- PH 490 - Senior Thesis in Philosophy

And two courses from:

- PH 255A - Advanced Ethics: Business (BA 255A)
- PH 255B - Advanced Ethics: Medicine
- PH 255C - Advanced Ethics: Legal
- PH 255D - Advanced Ethics: Environmental

Humanities track students normally will complete:

Students in this track also will be required to complete three sequential courses (100- to 300-level) in another branch of the Humanities – Religious Studies, Modern Languages, History, English and any of the Fine and Performing Arts. The advisor for this track is Dr. Anthony Matteo.

- PH 105 - WCH Introduction to Philosophy
- PH 110 - PLE Logic and Critical Thinking
- PH 201 - WCH History of Western Philosophy I
- PH 202 - WCH History of Western Philosophy II

- PH 320 - Philosophy of Religion or
- PH 462 - Film Studies Capstone Course

- 370-level Special Topics Seminar in Philosophy of Art or Literature (Aesthetics)
- PH 490 - Senior Thesis in Philosophy

Political Science (B.A.)

Student Learning Outcomes for Political Science:

Students will be able to:

- Explain the major theories, concepts and methods of political analysis – empirical, normative and policy-oriented.

- Apply theories, concepts and methods used in the study of politics to political ideas, institutions and practices.

- Exercise critical judgment, analyze and synthesize relevant information and construct reasoned argument.

- Communicate effectively and fluently in speech and in writing.

- Conduct independent, original research, demonstrating the ability to gather, organize and present evidence, data and information from a variety of primary and secondary sources.

- Be involved in matters of public concern locally, nationally and globally.

The Political Science major requires the following courses:

- PS 111 - SSC American National Government
- PS 150 - NCH Introduction to Comparative Politics

- PS 223 - History of Western Political Thought I: Ancient to Renaissance or
- PS 224 - History of Western Political Thought II: Enlightenment to Modern

- PS 230 - Research Methods
- PS 245 - NCH International Relations
- PS 498 - Senior Seminar in Political Science

- An additional 20 credits of political science courses
- Participation in a for-credit experiential-learning or off-campus study program approved by the Department and the Office of Registration and Records. Examples of such programs include: the Department's Capital Semester Internship Program (PS 471), the Queen's University International Study Centre at Herstmonceux Castle; the American University Washington Semester Program; BCA Study Abroad programs; the Summer Study Abroad Oxford, England, Programme; and May term international experiences sponsored by individual faculty and Departments. Approved political science courses in these off-campus programs will count toward the major.

Note: For information about the American University Washington Semester Program, students should contact Dr. Fletcher McClellan. For internship opportunities in Harrisburg through the Department's Capital Semester Internship Program (PS 471), students should contact Dr. April Kelly-Woessner.

Philosophy Minor

Students pursuing a Philosophy minor normally complete 20 credits including:

- PH 105 - WCH Introduction to Philosophy
- PH 110 - PLE Logic and Critical Thinking

- PH 201 - WCH History of Western Philosophy I or
- PH 202 - WCH History of Western Philosophy II

- One 200-level Philosophy elective
- One 300-level Philosophy elective

Political Science Minor

A **Political Science minor** requires 20 credits of course work.

The following courses are required:

- PS 111 - SSC American National Government

- PS 150 - NCH Introduction to Comparative Politics or
- PS 245 - NCH International Relations

- PS 223 - History of Western Political Thought I: Ancient to Renaissance or
- PS 224 - History of Western Political Thought II: Enlightenment to Modern

- Eight credits of Political Science electives, at least four of which must be at the 300- or 400-level

Philosophy Courses

PH 105 - WCH Introduction to Philosophy
4.00 credits. **(Western Cultural Heritage Core Course)** A historical overview and a topical introduction to the Western philosophical tradition, the course concentrates on the most fundamental existential questions that confront

us, and examines some of the great Western philosophers' answers to these questions throughout history. Great historical figures in Western philosophy such as Plato, Aquinas, Descartes and Hume are covered. Course topics and questions include: philosophy of religion, epistemology, metaphysics and ethics.

PH 110 - PLE Logic and Critical Thinking
4.00 credits. **(Power of Language Core Course)** This course is an overview of the key skills that are necessary for being a critical thinker in general, and it is an overview of the various impediments to critical thinking and the pitfalls they can lead to such as prejudice and authoritarianism. The student will learn the difference between mere rhetoric and persuasion on the one hand, and cogent reasoning on the other. The student will be trained in both deductive and inductive patterns of reasoning, and learn to spot and evaluate such arguments in the wild—magazines, political speeches, advertising, etc. In addition to learning how to be a critical (and thus persuasive) thinker, writer and speaker, the student will also learn about the many roadblocks to critical thinking such as: formal/informal fallacies, naïve ideas about the reliability of memory/perception, social context/group-think, etc. The focus of the course will be critical thinking in real world decision making. **Prerequisite(s):* MA 011 (competency). This course is open to students with advanced English placement as well as those who have already completed their PLE requirement.

PH 111 - Introduction to Classical Greek
4.00 credits. A first experience with the Greek language with focus on the language and its social and cultural context. Students will explore classical Greek literature in its original language.

PH 115 - HUM Ethics
4.00 credits. **(Humanities Core Course)** A study of the nature, origin and development of ethical theories from both a historical and contemporary perspective and their relevance to significant current moral dilemmas such as abortion, euthanasia, capital punishment and environmental issues. Special attention is given to the exploration of enduring moral concerns, such as moral realism versus relativism, egoism, altruism, the role of reason in ethics, and the nature of responsible moral decision making.

PH 200 - History and Philosophy of Science
4.00 credits. This course will cover the nature of scientific laws and explanation, the problem of induction, realism, the Quine-Duhem thesis, falsifiability, instrumentalism, Ptolemaic astronomy, Copernican astronomy, Kepler's laws, the Aristotelian worldview, the Newtonian worldview, the special theory of relativity, the general theory of relativity, space-time structure, time travel, quantum theory, the EPR conundrum, quantum non-locality, and Bell's theorem. The material will be presented in historical context.

PH 201 - WCH History of Western Philosophy I
4.00 credits. **(Western Cultural Heritage Core Course)** Engagement in an in-depth survey of the central issues and thinkers in Western Philosophy in ancient, medieval and early modern periods. Special emphasis is placed on the works of major figures such as Plato, Aristotle, Augustine, Aquinas, Ockham and Descartes with a view toward exploring their respective positions on critical questions in epistemology, metaphysics, ethics, politics and aesthetics.

PH 202 - WCH History of Western Philosophy II
4.00 credits. **(Western Cultural Heritage Core Course)** This course engages in an in-depth survey of the central issues and thinkers in the modern and contemporary periods. Special emphasis is placed on major figures such as Kant, Locke, Hume, Hegel, Nietzsche, Wittgenstein and Heidegger with a view toward exploring their respective positions in regard to epistemology, metaphysics, ethics, politics and aesthetics.

PH 213 - Philosophy of Science
4.00 credits. Fundamental issues in the philosophy of science, such as the nature of scientific laws and explanation, the problem of induction, realism and anti-realism, and scientific progress will be treated. We will concern ourselves with questions such as: What claims are we justified in making within science? Do our best scientific theories give us a literally true account of the whole universe or an approximately true account? Are the entities studied by science really "out there in the world," or are they merely convenient fictions?

PH 234 - Justice Through the Ages
4.00 credits This seminar addresses the subject of justice as it has appeared in classical literature. Many of the readings involve the contest between positive law, enacted by the state, and what has been labeled natural or eternal law. The course begins with readings from the ancient world and concludes with modern-day readings on the subject. It also includes films that eloquently address the perennial problems associated with defining justice.

PH 255A - Advanced Ethics: Business (BA 255A)
4.00 credits. Business Ethics is part of a four-course sequence in Applied Ethics. In each course, a theoretical foundation for ethical discourse within the respective field is established. This course then proceeds to a detailed treatment of central ethical dilemmas in the actual practice of business.

PH 255B - Advanced Ethics: Medicine
4.00 credits. Medical Ethics is part of a four-course sequence in Applied Ethics. In each course, a theoretical foundation for ethical discourse within the respective field is established. This course then proceeds to a detailed treatment of central ethical dilemmas in the actual practice of medicine.

PH 255C - Advanced Ethics: Legal
4.00 credits. Legal Ethics is part of a four-course sequence in Applied Ethics. In each course, a theoretical foundation for ethical discourse within the respective field is established. This course then proceeds to a detailed treatment of central ethical dilemmas in the actual practice of law.

PH 255D - Advanced Ethics: Environmental
4.00 credit(s). Environmental Ethics is part of a four-course sequence in Applied Ethics. In each course, a theoretical foundation for ethical discourse within the respective field is established. This course then proceeds to a detailed treatment of central ethical dilemmas in the practice of public policy with regard to environmental use and protection.

PH 275 - HUM Science and Values
4.00 credits. **(Humanities Core Course)**
Many people now recognize that for both good and ill, science is value-laden, e.g., scientists are influenced by ethical and political values when they do science. Scientists are people, just like the rest of us. The truth is that values shape research methods, agendas, and applications of scientific knowledge. More controversially, it maybe that even theory choice and theory testing are value-laden. So all this raises questions, how can we inform our consciences and pursue implementations of scientific and technological developments that are just and respectful of human dignity? What is the responsibility of the scientist or engineer for the uses their work is put to? By what means, in which respects, and to what extent does science change our world and does the world change science? Which of these changes are morally positive and which are not? To answer these questions we need an approach to science that integrates the history, philosophy, anthropology, psychology, sociology, and economics of science and scientists into a comprehensive analysis. This course will introduce the student to foundational ethical theories and principles, and then apply them to various case studies in the area of science and values.

PH 290 - Introduction to Cognitive Science
4.00 credits. Cognitive science is an interdisciplinary science that integrates elements of philosophy, psychology, neuroscience, and computer science into a unified field of study. Cognitive learning, consciousness and emotion from each of these perspectives, ranging from abstract and formal theories at one end to well-defined empirical research and computer modeling at the other. As a required course for the Cognitive Science Minor, Introduction to Cognitive Science provides exposure to a variety of disciplines, with particular focus on how they cooperate to study human thought, experience and behavior. Spring semester.

PH 305 - Philosophy of Law (PS 305)
4.00 credits. An analysis of the major underlying philosophical issues of both criminal and civil law. Special attention is given to natural law theory, legal positivism, epistemological foundations of legal reasoning and interpretation, and the moral foundations of retributive and distributive justice.

PH 320 - Philosophy of Religion
4.00 credits. A study of the various rational efforts to establish the validity of the religious perspective. Topics will include: the nature of religious experience, the relationship between faith and reason, the arguments for the existence of God, the problem of evil, the possibility of miracles and immortality, and the relationship between religion and ethics, and religion and science.

PH 370-378 - Special Topics in Philosophy
4.00 credits. A series of courses with topics not otherwise covered in the curriculum. Offered when student interest and faculty availability justify. **Prerequisite(s):* Permission of the instructor. This course is repeatable for credit.

PH 462 - Film Studies Capstone Course
4.00 credits. An analysis of selected perennial issues in philosophy through the media of film and literature. Areas of investigation will include: the nature of Self and Reality, the nature of Knowledge, as well as issues in moral and political philosophy. **Prerequisite(s):* COM 261 and a minimum of 16 earned credits in the minor or permission of instructor. Register by Instructor.

PH 480-489 - Independent Study in Philosophy
4.00 credits. Advanced students have the opportunity to study specialized areas not otherwise included in the curriculum. **Prerequisite(s):* Approval of the Department Chair and Independent Study Committee. Register by Instructor. This course is repeatable for credit.

PH 490 - Senior Thesis in Philosophy
4.00 credits. An individualized study project involving research of a topic and the preparation of a major paper. The paper is presented orally to the Philosophy Department staff and interested persons. This is normally done during the senior year. Register by Instructor.

Political Science Courses

PS 111 - SSC American National Government
4.00 credits. **(Social Sciences Core Course)** Students are introduced to the social sciences through analysis of how the American political system works and the factors that shape American political behavior. In particular, students will examine American political ideals, the U.S. Constitution, federalism, and civil rights and liberties; the media, public opinion, political organizations and elections; and the presidency, bureaucracy, Congress and the Courts. Throughout, students will think critically about the origins and structure of Americans' beliefs about politics, and about how American law and public policy are made.

PS 150 - NCH Introduction to Comparative Politics
4.00 credits. **(Non-Western Cultural Heritage Core Course)** A comparison and contrast of the political systems of selected foreign nations, emphasizing the historical development of party systems, political cultures and executive-legislative relations. Spring semester.

PS 205 - WCH Western Political Heritage
4.00 credits. **(Western Cultural Heritage Core Course)** A critical assessment of the ideas and selected original works of leading Western social and political thinkers since Plato. Justice, equality, war and peace, rights, freedom, order and community are among some of the ideas to be examined from a variety of critical and historical perspectives. This course is for nonmajors only.

PS 211 - SSC Political Psychology (PSY 211)
4.00 credits. **(Social Science Core Course) *A Guided Writing and Research Course.** This interdisciplinary course explores the intersection between political science and psychology. It introduces students to psychological theories and research findings in order to explain what people think, feel and do about contemporary political issues. Specifically, the course draws on psychological concepts regarding motivation, personality, cognition, attribution, emotion and identity to examine mass political behavior and public opinion.

PS 215 - SSC Political Communication
4.00 (**Social Science Core Course)** This interdisciplinary course explores the intersection between political science and communication. It introduces students to communication theories and research findings in order to explain how political information is created, disseminated, and evaluated by political elites and citizens. The first part of the course introduces students to communication theory and various methodological approaches to the study of political communication. The second part of the courses examines the role of the mass media in a democracy. The third part of the course examines social communication networks and the sharing of political information within the family, workplace, and community.

PS 220 - HUM The Good, the Free and the Powerful
4.00 credits. (**Humanities Core Course)** People inevitably find themselves in a political world. Our experiences of politics -- as citizens obliged to other citizens, as persons anxious about the power of others who govern us, and as selves who come to value ideals such as freedom and equality -- are complicated, insecure, exhilarating, and sometimes violent. Through careful readings of philosophical and fictional texts that engage the nature of political experience, students will grapple with different conceptions of how morality, freedom and political power are linked. In some texts, such as Plato's Republic and Sir Thomas Moore's Utopia, social harmony and the power of rulers reinforces one another. In other texts, such as Machiavelli's Prince, government is an amoral force that is necessary to secure stability, even as it is feared. And in others, such as Huxley's Brave New World, politics gives us the things we value -- things we falsely believe we have chosen to value. By the end of the course, students will have investigated what they take to be good, and what it means to be free. And they will apply insights from their encounters with great works of philosophy and literature to a short story project that creates a political dystopia.

PS 223 - History of Western Political Thought I: Ancient to Renaissance
4.00 credits. A survey of major political thinkers from Plato through Machiavelli. Self, politics, nature, order and freedom are among the topics examined. Fall semester.

PS 224 - History of Western Political Thought II: Enlightenment to Modern
4.00 credits. Major political thinkers in the West and their writings from Thomas Hobbes to the present. Self, justice, equality, rights, sovereignty and freedom are among the topics examined. Spring semester.

PS 225 - HUM Politics in Film and Fiction: Democracy in America
4.00 credits. **(Humanities Core Course)** An examination of democratic theory through major films and novels depicting the American political experience from the 1930s to the present. Questions to be explored include whether political elites are accountable to the general public, whether mass control of government is desirable, and how democracies should deal with evil.

PS 230 - Research Methods
4.00 credits. Techniques of empirical political research and the development of modern methods of analysis and data presentation in political science with reference to contributions from other social sciences. A major research project on methodology is required. Register by Instructor. Spring semester.

PS 240 - WCH Foundations of American Democracy
4.00 credits (**Western Cultural Heritage Core Course)** This course traces the roots of the early American republic. Students will explore how Greek, Roman, and English traditions influenced American democracy and the Founding Fathers. Students will also discuss topics including the Declaration of Independence, Articles of Confederation, U.S. Constitutional Convention, and the Federalist and Anti-Federalist Papers.

PS 245 - NCH International Relations
4.00 credits. **(Non-Western Cultural Heritage Core Course)** Survey of the basic units of analysis, concepts and principles of global international relations with emphasis on the formulation and implementation of foreign policy in the context of political, economic, military and cultural factors.

PS 252 - Latin American Society
4.00 credits. A study of Latin American sociocultural formation in its historical, political and economic dimensions with comparison to and contrast with the United States' experience and consideration of current social issues.

PS 290 - Judicial Process and Politics
4.00 credits. This course is designed to give students a broad understanding of the function and structure of the American courts and the various actors who comprise the judiciary. The course will examine such topics as the hierarchy of courts, judicial selection methods, models of judicial decision-making, the judiciary's interaction with the other branches of government, and contemporary problems in the American justice system. Fall semester.

PS 301 - Mock Trial I
2.00 credits. To prepare and conduct a criminal jury trial in the American Mock Trial Association regional and national competition. *May only be taken once for credit. A student may elect to repeat this class for the experience; however, no additional credit is earned. Graded Pass/No Pass. Fall semester.

PS 302 - Mock Trial II
2.00 credits. To prepare and conduct a criminal jury trial in the American Mock Trial Association regional and national competition. **Prerequisite(s):* PS 301 in the same academic year. *May only be taken once for credit. A student may elect to repeat this class for the experience; however, no additional credit is earned. Graded Pass/No Pass. Spring semester.

PS 303 - Constitutional Law I: Institutions
4.00 credits. This course examines the Supreme Court's interpretation of the powers granted by the U.S. Constitution to the institutions of the federal government. Topics include the power of judicial review, constraints on judicial power, the sources and scope of Congressional power, the domestic powers of the President, the President and foreign affairs, and the separation of powers. Fall semester.

PS 304 - Constitutional Law II: Rights and Liberties
4.00 credits. This course examines the Supreme Court's interpretation of the protections provided by the U.S. Constitution against governmental intrusion on our civil liberties. Topics include First Amendment issues, such as freedom of speech, freedom of religion, and the establishment clause; 14th Amendment issues, such as right to privacy; discrimination based on race, gender and sexual orientation; and remedies for discrimination such as affirmative action. Spring semester.

PS 305 - Philosophy of Law (PH 305)
4.00 credits. An analysis of the major underlying philosophical issues of both criminal and civil law. Special attention is given to natural law theory, legal positivism, epistemological foundations of legal reasoning and interpretation, and the moral foundations of retributive and distributive justice.

PS 313 - The American Presidency
4.00 credits. An examination of the development of the modern presidency as institution, symbol and policymaker. Topics to be covered include the nature of presidential power, the institutional presidency, relations with the public and governmental institutions in the United States, and policy leadership in foreign and domestic affairs. **Prerequisite(s):* PS 111.

PS 314 - Legislative Process and Behavior
4.00 credits. An exploration of the American legislative process, operating procedures of the United States Congress, and factors that influence congressional decision making, including constitutional constraints, congressional rules and members' own drives and ambitions. A substantial portion of the course will emphasize the techniques and methods researchers employ in the study of Congress. **Prerequisite(s):* PS 230, or permission of instructor.

PS 315 - Public Opinion and Political Behavior
4.00 credits. An examination of opinion formation and predictors of political behavior. Topics include measurement of public opinion, stability and strength of opinions, the impact of public opinion on the political process, mass political behavior, voting behavior and collective action dilemmas. **Prerequisite(s):* PS 230, or permission of the instructor.

PS 316 - The American Electoral Process
4.00 credits. Analysis of the process of recruiting, nominating and electing candidates for national office in the United States., the major participants in national elections, and the impact of elections on public policymaking.

PS 323 - Politics Through Film and Literature
4.00 credits. A study of political novels and films and how these art forms have significantly shaped our understanding of politics. Democracy, totalitarianism, social inequality, terrorism, justice and the rule of law are among some of the topics examined.

PS 324 - Modern Ideologies
4.00 credits. A survey of Marxism, socialism, anarchism, liberalism, libertarianism, Islamic fundamentalism, feminism and conservatism, and an analysis of the motives and goals of their major proponents.

PS 326 - American Political Thought
4.00 credits. Historical analysis of major American political thinkers from the Puritans to the present with special consideration given to the founding principles of the American republic.

PS 328 - Politics and Religion
4.00 credits. Analysis of the relationships between forms of government and religious attitudes and practices with emphasis on the influence of religion on political life and of religious interpretations of politics.

PS 329 - American Democracy and Its Critics
4.00 credits. An exploration of recent critical literature on American democracy and on contemporary democratic regimes in general. Discussions will center on the similarities and differences among the political commentators who will be featured.

PS 340 - Political Violence and Terrorism
4.00 credits. This course systematically analyzes political violence and terrorism in comparative and international perspective. It introduces students to the historical, analytical and comparative study of terrorism, civil wars, and other forms of political violence. It surveys competing theories about the causes, conduct, and conclusion of the political conflicts and political violence in the world and examines how the international community deals with different forms of political violence. Alternating spring semesters.

PS 345 - American Foreign Policy
4.00 credits. Emphasis on the 1990s and beyond, with consideration of major international challenges and opportunities facing the United States, social and governmental processes in foreign policy decision making, and the large role of American society and the private sector in the United States' presence in the world.

PS 350 - European Union Simulation I (BA 350)
4.00 credits. Study of the principles and theories of European integration, the history of the current European Union (E.U.) from the Treaty of Rome to the present, and the structure and functioning of the European Union, including class participation representing an E.U. Member State in the annual Mid-Atlantic European Union Consortium E.U. Simulation in Washington, D.C. Fall semester.

PS 360 - Washington Institute (BA 360)
4.00 credits. The course highlights relationships between the legislative, executive, independent agencies and third-party institutions that directly affect how policy is made in the United States. The course exposes students to the mechanism that is used to formulate policy for the United States. The Institute will focus heavily on International policy and the inner workings of the various institutional agents that participate in the process of making policy. Students will observe and develop a critical sense of how to weigh the various interests before policy is ultimately made. Students will learn to examine the purpose of policy and evaluate how it will impact various industries. **Prerequisite(s):* BA 101.

PS 361 - Public Administration
4.00 credits. A study of the role and influence of executive branch Departments and agencies in American politics, government and policymaking. Differences between public- and private-sector leadership, decision making, communications, organization, budgeting and human resource management will be emphasized. Fall semester.

PS 363 - American Domestic Policy
4.00 credits. An examination of the development and impact of selected public policies in health care, welfare, education, energy and the environment. Students will conduct policy analyses, making use of information resources in the Harrisburg area.

PS 365 - Women and Politics
4.00 credits. Examination of the role of women in the political process. Topics include feminist theory, the development of the women's movement, participation of women in the political process as voters and elected

officials, and public policy issues affecting women, including the feminization of poverty, reproductive rights and equality in the workforce.

PS 370-378 - Special Topics in Political Science
Variable credit. Topical areas and problems of political science, subjects chosen in accord with student demand. Credit variable based upon topics. This course is repeatable for credit.

PS 471 - Capital Semester Internship
Variable credit. Applied field experience in politics and public administration for state or local government agencies, the state legislature and private political organizations. Normally, four credits are given to internships contracted for two regular office-hour days a week. Full-time internships receive eight hours of credit. **Prerequisite(s):* PS 361, junior or senior status. Register by Instructor.

PS 476 - Internship in Political Science
Variable (2.00 to 8.00) credits. This course provides students with applied field instruction in political science. Register by Instructor. This course is repeatable for credit.

PS 480-489 - Independent Study in Political Science
Variable credit. Designed to offer independent study to advanced students, making use of techniques of political science in specific problem areas not included in the Department's regular offerings. **Prerequisite(s):* Approval of Department Chair and the Independent Study Committee. Register by Instructor. This course is repeatable for credit.

PS 498 - Senior Seminar in Political Science
4.00 credits. An integrative, capstone course in political science, in which significant controversies in political theory and practice will be discussed and analyzed. Course requirements include a major research project and the ETS Major Field Test in Political Science. **Prerequisite(s):* Senior status, or permission of the instructor. Register by Instructor. Fall semester.

PS 499 - Senior Thesis
4.00 credits. An individualized study project involving research of a topic and the preparation and defense of a major paper or project in consultation with the student's honors advisor and the Department faculty. Completion of this course does not assure recognition for Honors in the Discipline. **Prerequisite(s):* Invitation to Honors in the Discipline Program and PS 498. Register by Instructor. Spring semester.

Department of Psychology

Smith (Chair), Dennis, Lemley, Pretz, Rider, Roy, Teske

For more information, please visit the Department's website or check your course syllabi, which are available through the course instructor or at the High Library.

The Psychology Department seeks to develop reflective, compassionate and critical thinkers, astute in the use of both reasoned argument and empirical science for understanding human behavior, thought and experience. Our curriculum provides education for either the direct pursuit of careers in psychology, or for further graduate and professional studies in psychology, neuroscience, medicine, business, education, human services and law.

Major Offered

The Department offers a **Psychology major**.

Minors Offered

The Department offers a **Psychology - General Theory and Methods Minor**. The Department also participates in the interdisciplinary **Cognitive Science Minor**.

Honors in the Discipline

The Department of Psychology participates in the College Honors in the Discipline Program. For guidelines, students should consult the Department Chair.

Psychology (B.A.)

Note: Students must achieve an average of a C- or better for PSY 213 and PSY 218 to continue in the major.

Student Learning Outcomes for Psychology:

Students will be able to:

- Critically analyze, synthesize and evaluate ideas.
- Conduct independent psychological research and apply psychological and methodological concepts to novel research ideas.
- Effectively convey their evidence based analysis of psychological research and theories through oral and written formats.
- Describe the nature of the relationship between brain, thoughts, feelings and behaviors
- Describe and apply the different theories and schools of thought of psychology (e.g. behaviorism) and to be able to place them in a historical perspective.

The Psychology major requires the following courses:

- PSY 105 - SSC General Psychology
- PSY 213 - Psychological Statistics
- PSY 218 - Psychological Research Methods
- PSY 402 - History and Systems of Psychology

- PSY 241 - Sensation and Perception or
- PSY 251 - Emotion

- PSY 413 - Research in Perception or
- PSY 414 - Research in Cognition

- PSY 425 - Research in Developmental Psychology or
- PSY 435 - Research in Social Psychology

- One biology course
- One philosophy course

One of the following:

- PSY 221 - Abnormal Psychology
- PSY 225 - Developmental Psychology
- PSY 235 - Social Psychology

Two of the following:

- PSY 311 - Neuropsychology
- PSY 321 - Theories of Personality
- PSY 341 - Human Cognition

Psychology - General Theory and Methods Minor

Students are encouraged to tailor their selection of courses to their personal and career goals in consultation with a member of the Psychology faculty.

General Theory and Methods Psychology minor track requires the following courses:

- PSY 105 - SSC General Psychology
- 16 credits of Psychology electives; at least four credits of which must be at the 300- or 400-level

Psychology Courses

PSY 105 - SSC General Psychology
4.00 credits. **(Social Sciences Core Course)** An introduction to psychological science, including methods of inquiry, learning and motivation, abnormal behavior, developmental and social influences, cognition, sensation and perception, neuroscience and personality.

PSY 111 - NPS Introduction to Neuroscience
4.00 credits. **(Natural and Physical Science Core Course)** A survey of the biological basis of psychological processes, including neurons and brain organization, the endocrine system, motor control, higher cortical functions and dysfunctions in order to provide an integrated understanding of the brain and behavior. Recovery from brain damage, sexual behavior, emotion, language, mood disorders, schizophrenia and additional related topics also are covered.

PSY 209 - HUM Psyche and Film
4.00 credits. **(Humanities Core Course) *A Guided Writing and Research Course.** This course explores evolutionary and historical contributions to the concept of "psyche," as it emerges and develops as a central concern in philosophical, moral and scientific understanding. The understanding of the self in moral space includes the accumulation of a psychic inheritance that includes identity and character, inwardness, hiddenness, an external life of behavior and language and the creative invention of self and world. In the contemporary era, as film has become an important aesthetic medium, these contributions and understandings can be explored more fully via this rich, complex, and dramatic, and extensively collaboratively medium. How this medium may itself be transforming how we understand ourselves and our positioning in a moral world will also be addressed. **Corequisite(s):* PSY 209L. Spring semester.

PSY 211 - SSC Political Psychology (PS 211)
4.00 credits. **(Social Science Core Course) *A Guided Writing and Research Course.** This interdisciplinary course explores the intersection between political science and psychology. It introduces students to psychological theories and research findings in order to explain what people think, feel and do about contemporary political issues. Specifically, the course draws on psychological concepts regarding motivation, personality, cognition, attribution, emotion and identity to examine mass political behavior and public opinion.

PSY 213 - Psychological Statistics
4.00 credits. Analysis of experimental and correlational research. Emphases include issues in philosophy of science and consideration of rival hypotheses, and research ethics. **Prerequisite(s):* PSY 105. **Corequisite(s):* PSY 213L. Students must achieve an average of a C- or better for PSY 213 and PSY 218 to continue in the major. Hours: lecture 3, laboratory 2. Fall semester.

PSY 218 - Psychological Research Methods
4.00 credits. Design and analysis of correlational research. Emphases include research ethics, inferences of causality, and scientific writing. **Prerequisite(s):* PSY 213. **Corequisite(s):* PSY 218L. Students must achieve an average of a C- or better for PSY 213 and PSY 218 to continue in the major. Hours: lecture 3, laboratory 2. Spring semester.

PSY 221 - Abnormal Psychology
4.00 credits. A study of mental disorders including schizophrenia, depression, substance abuse, anxiety and psychosexual disorders. Research and theories regarding diagnosis, causes and treatments are reviewed. **Prerequisite(s):* PSY 105. Spring semester.

PSY 225 - Developmental Psychology
4.00 credits. Physical, perceptual, linguistic, intellectual and social-emotional human development, covering the periods of infancy, childhood, adolescence, adulthood and old age. Various options for the course project include off-campus observations of children and a developmental autobiography. **Prerequisite(s):* PSY 105. Offered every semester.

PSY 235 - Social Psychology
4.00 credits. Survey of issues, theories and methods in understanding the processes by which social life constitutes, influences and is composed of the thoughts, feelings and behavior of human beings. Topics include social

explanation, social cognition and attribution, the dynamics of self, social influence, persuasion, aggression, innovation, interpersonal communication, relationships and environmental transaction. Students will conduct case studies and analysis. **Prerequisite(s):* PSY 105. Fall semester.

PSY 237 - Psychology of Women
4.00 credits. A psychological approach to understanding both the behavior of women and the female experience. Topics include development across the lifespan, language and reasoning, victimization, physical well-being, mental health and stereotypic-based conflicts.

PSY 241 - Sensation and Perception
4.00 credits. This course investigates how we construct a conception of physical reality from sensory experience. Through lectures, in-class demonstrations and discussions, we will examine how environmental information gets to humans through our visual, auditory, cutaneous, olfactory and gustatory senses and how this information is interpreted by the brain so that we have a conscious experience of our environment. **Prerequisite(s):* PSY 105 or PSY 111. Spring semester.

PSY 247 - Learning and Motivation
4.00 credits. A survey of the fundamental concepts underlying learning, specifically those involved in classical and operant conditioning and social learning. The basic procedures, principles and neural mechanisms of learning are examined. Special focus will be given to the relationship of fundamental learning principles with complex human functions, including social interaction, self-regulation, skilled performance, and psychopathology. Common applications of learning theory - including to education, marketing and psychotherapy - also are discussed. **Prerequisite(s):* PSY 105. Spring semester.

PSY 251 - Emotion
4.00 credits. A survey of the theories, methods, and findings necessary for a scientific understanding of human emotional life. Covers physiology, development, subjective experience, behavioral correlates, and the relational context and consequences of human emotions. Examines the basic emotional inheritance of our species, its cultural, historical, and developmental shaping, and its role in human experience, relationship, and life story. Will also map out the connections across multiple sub-disciplines of psychology, as well as other fields. **Prerequisite(s):* PSY 105 or PSY 111. Spring semester.

PSY 311 - Neuropsychology
4.00 credits. An examination of the relationship between brain function and behavior in healthy and brain-damaged populations. Focuses on the manner in which various neural mechanisms are themselves interconnected and how they connect with a variety of everyday or abnormal behaviors. The course will specifically address the use of particular neuropsychological tests in evaluating brain dysfunction. **Prerequisite(s):* PSY 111 and junior status, or permission of instructor.

PSY 321 - Theories of Personality
4.00 credits. A critical examination of major theories and perspectives on human personality. Addresses historical and cultural issues, empirical evaluation, and the difficulties of formulating an integrated understanding. Emphasizes the pursuit of personal development, human freedom and clinical application. Theories include evolutionary, psychoanalytic, social-cognition, dispositional, motivational, ego-development and narrative. Includes studio work. **Prerequisite(s):* PSY 105 and junior status, or permission of the instructor. Fall semester.

PSY 327 - Intelligence and Creativity
4.00 credits. A critical examination of issues in the study of intelligence and creativity, including multiple intelligences, bias in IQ testing, the Flynn effect, intelligence and aging, creativity measurement, the role of motivation in creativity, and the relationship between creativity and mental illness. Students will debate

controversial issues in the field. **Prerequisite(s):* PSY 105 and junior status, or permission of the instructor. Spring semester.

PSY 333 - Psychological Assessment
4.00 credits. An introduction to theoretical, practical and ethical issues in assessment, focusing on application and decision making. Widely-used tests are also discussed. **Prerequisite(s):* PSY 105. Fall semester.

PSY 341 - Human Cognition
4.00 credits. A study of the theoretical models, methods and empirical findings involving mental abilities, including perceiving, reasoning, memory, problem solving, creativity, language and attention. **Prerequisite(s):* PSY 105 and junior status, or permission of the instructor. Spring semester.

PSY 370-378 - Special Topics in Psychology
4.00 credits. Topics not part of the regular curriculum, offered based on student and faculty interest. This course is repeatable for credit.

PSY 401 - Counseling Psychology
3.00 credits. An introduction to counseling skills and an examination of the assumptions that students bring to the role of counselor. Substantial class time is devoted to role-playing various counselor/counselee situations. **Prerequisite(s):* PSY 105. Register by Instructor. Spring semester.

PSY 402 - History and Systems of Psychology
4.00 credits. A study of major historical systems in psychology, including structuralism, functionalism, behaviorism, gestalt psychology and psychoanalysis. Capstone course for Psychology majors. **Prerequisite(s):* PSY 105 and senior status. Fall semester.

PSY 413 - Research in Perception
4.00 credits. A study of the theories and empirical findings in the area of perceptual functioning with emphasis on visual processing. Students will conduct an original research project. **Prerequisite(s):* PSY 213, PSY 218 and PSY 241. Register by Instructor. Fall semester.

PSY 414 - Research in Cognition
4.00 credits. The theories and empirical findings in memory and thinking. Students will conduct an original research project. **Prerequisite(s):* PSY 213, PSY 218 and PSY 247. Register by Instructor. Fall semester.

PSY 425 - Research in Developmental Psychology
4.00 credits. An advanced study of major developmental theories and critical reviews of relevant empirical evidence. Students will conduct research projects related to a common theme in developmental psychology. **Prerequisite(s):* PSY 213, PSY 218 and PSY 225. Register by Instructor. Spring semester.

PSY 435 - Research in Social Psychology
4.00 credits. A critical examination of selected areas of social psychological research with attention to crucial theoretical and methodological issues and questions of social, legal, ethical and historical relevance. Students will complete an original research project. **Prerequisite(s):* PSY 213, PSY 218 and PSY 235. Register by Instructor. Spring semester.

PSY 475 - Field Study
4.00 credits. Supervised training and experience in a professional setting related to psychology, generally for two afternoons a week, plus meetings with the instructor. Placement depends on student interest and goals, and

availability of professional setting. **Prerequisite(s):* PSY 105 (PSY 221 and PSY 401 for students interested in a mental health setting). Graded Pass/No Pass. Register by Instructor. This course is repeatable for credit.

PSY 480-489 - Independent Study in Psychology
Variable credit. Opportunity for students to engage in independent study. **Prerequisite(s):* Permission of the Department Chair and the Independent Study Committee. Register by Instructor. This course is repeatable for credit.

PSY 490 - Research Practicum
Variable credit. Research in psychology under the close supervision of a faculty member. Topics for research are chosen in an area of interest to both persons. **Prerequisite(s):* PSY 213 and PSY 218. Register by Instructor.

Department of Religious Studies

Bucher (Chair), Bach, Kraybill, J. Long, M. Long, Sadd

For more information, please visit the Department's website or check your course syllabi, which are available through the course instructor or at the High Library.

Religious Studies courses offer all students the opportunity to explore the religious and spiritual dimensions of life, culture and society. The Department prepares its majors and minors to continue theological study and ministry training at the graduate level, to pursue graduate study in religion, and to make meaningful contributions in the vocations to which they feel called. In keeping with the heritage of the Church of the Brethren and the mission of the College, the Department's courses explore ways in which religious beliefs, practices and traditions promote peace within the human community, commend the use of nonviolent methods of transforming conflict, establish justice locally and globally, proclaim the essential worth of all human beings, and encourage respect for diversity.

Religious Studies is a highly diversified discipline that draws on a variety of scholarly methods and involves the empathetic study of myriad religious traditions. Our Department reflects the historical, theological, scriptural, ethical and comparative aspects of this field. The faculty, therefore, is able to offer a balanced and thorough course of study for students in the areas of Asian religions, biblical studies, ethics and society, history of Christianity, and ministry studies.

Following the Church of the Brethren heritage of Elizabethtown College, the Department emphasizes the study of nonviolence and fosters an understanding of the historical Brethren commitments to peace, justice and service. Thus, the Department contributes to an interdisciplinary minor in Peace and Conflict Studies and sponsors a minor in Anabaptist and Pietist Studies.

Majors Offered

The Department offers a major in **Religious Studies** with the option of tailoring the major with one of five concentrations.

Minors Offered

The Department offers a **Religious Studies minor**. Minors in **Peace and Conflict Studies**, **Anabaptist and Pietist Studies**, and **Asian Studies** also are available.

Honors in the Discipline

The Department of Religious Studies participates in the College Honors in the Discipline Program. For guidelines, students should consult the Department Chair.

Religious Studies (B.A.)

The **Religious Studies major** consists of 12 courses totaling no fewer than 40 credits. It can either be a **General Religious Studies major** or it can be focused upon one of five concentrations: **Asian Religions**, **Biblical Studies**, **Ethics and Society**, **History of Christianity**, and **Ministry Studies**.

General Religious Studies major

Student Learning Outcomes for Religious Studies:

Students will be able to:

- Describe religion with nuance and complexity.
- Analyze religious texts.
- Develop a significant research question.
- Employ effective research strategies.
- Evaluate secondary sources.
- Defend a cogent thesis.
- Construct a detailed argument.
- Write clearly and persuasively.

Course requirements:

- REL 490 - Senior Seminar in Religious Studies I
- REL 491 - Senior Seminar in Religious Studies II
- Six electives with a maximum of two departmentally-approved electives in disciplines outside of Religious Studies

At least one of the following:

- REL 145 - HUM Jesus and Moral Life
- REL 185 - In the Way: Introduction to the History and Thought of Christianity

At least one of the following:

- REL 290 - NCH Dharma Traditions: Hindu, Buddhist, Jain, and Sikh
- REL 291 - Indic Religions: Hinduism, Jainism, and Sikhism
- REL 292 - Buddhism

At least one of the following:

- REL 225 - NCH The Hebrew Bible and Ancient Near East
- REL 226 - WCH The New Testament

At least one of the following:

- REL 235 - Emerging Religions
- REL 236 - Myth, Magic, and Religion
- REL 237 - Polytheism, Animism, and Shamanism
- REL 238 - Contemporary Pagan Religions

At least one of the following:

- REL 352 - Psychology of Religion
- SO 317 - Sociology of Religion
- PH 320 - Philosophy of Religion

Religious Studies major with a concentration in Asian Religions

Student Learning Outcomes for Asian Religions concentration:

Students will be able to:

- Describe the doctrines and practices of either Hinduism or Buddhism.
- Examine major historical events, persons, and movements in the histories of either Hinduism or Buddhism.
- Analyze the historical interactions of either Hinduism or Buddhism with other traditions with which they have had close contact.
- Articulate a critical appreciation for specific values, concepts, and practices of diverse religious traditions.

Course requirements:

- REL 290 - NCH Dharma Traditions: Hindu, Buddhist, Jain, and Sikh or
- REL 291 - Indic Religions: Hinduism, Jainism, and Sikhism or
- REL 292 - Buddhism

- REL 490 - Senior Seminar in Religious Studies I
- REL 491 - Senior Seminar in Religious Studies II
- Two Asian language courses (Chinese, Japanese, or Sanskrit)
- Six electives with a maximum of two departmentally-approved electives in disciplines outside of Religious Studies

At least one of the following:

- REL 391 - Hinduism and Modernity
- REL 392 - Religion in China and Japan
- REL 393 - Indian Philosophy
- REL 480-489 - Independent Study in Religious Studies (Asian Religions)

At least one of the following:

- REL 235 - Emerging Religions
- REL 236 - Myth, Magic, and Religion
- REL 237 - Polytheism, Animism, and Shamanism
- REL 238 - Contemporary Pagan Religions
- REL 352 - Psychology of Religion

Religious Studies major with a concentration in Biblical Studies

Student Learning Outcomes for Biblical Studies concentration:

Students will be able to:

- Employ historical- and literary-critical methods of biblical interpretation.
- Analyze a primary text from the Bible in its original language of either Hebrew or Greek.

Course requirements:

- REL 225 - NCH The Hebrew Bible and Ancient Near East
- REL 226 - WCH The New Testament
- REL 325 - Seminar in Biblical Studies
- REL 490 - Senior Seminar in Religious Studies I
- REL 491 - Senior Seminar in Religious Studies II
- Six electives with a maximum of two departmentally-approved electives in disciplines outside of Religious Studies

At least two of the following:

- REL 213 - PLO Biblical Hebrew I
- REL 214 - Biblical Hebrew II
- REL 215 - Koiné Greek I
- REL 216 - Koiné Greek II

Religious Studies major with a concentration in Ethics and Society

Student Learning Outcomes for Ethics and Society concentration:

Students will be able to:

- Discuss and evaluate methods of decision-making in religious ethics.
- Describe the interrelationship between social worlds and religious values.
- Apply religious values to ethical situations and social issues.

Course requirements:

- REL 145 - HUM Jesus and Moral Life
- REL 264 - Religion and Violence
- REL 490 - Senior Seminar in Religious Studies I
- REL 491 - Senior Seminar in Religious Studies II
- PCS 165 - HUM Peace, War, and Nonviolence
- Two ancient or modern language courses
- Four electives with a maximum of two departmentally-approved electives in disciplines outside of Religious Studies

At least two of the following:

- REL 344 - The Nonviolent Ethics of Martin Luther King, Jr. or
- REL 345 - Seminar in Christian Social Ethics

- SO 317 - Sociology of Religion
- REL 480-489 - Independent Study in Religious Studies (Ethics and Society)

Religious Studies major with a concentration in History of Christianity

Student Learning Outcomes for History of Christianity concentration:

Students will be able to:

- Explain the importance of the history of Christianity.
- Describe significant social historical contexts in the development of Christianity.
- Employ multiple interpretive perspectives on a selected topic in the history of Christianity.

In choosing electives, students concentrating in the History of Christianity must have at least two 200-level courses and two 300-level courses. A maximum of two **approved** elective courses may be selected from the list of courses offered outside the Religious Studies Department.

Course requirements:

- REL 185 - In the Way: Introduction to the History and Thought of Christianity
- REL 490 - Senior Seminar in Religious Studies I
- REL 491 - Senior Seminar in Religious Studies II
- One Religious Studies elective
- Two semesters of a modern language or Koiné Greek

At least three of the following:

- REL 284 - Anabaptist and Pietist Movements
- HRE H285 - HNR WCH Amish, Brethren, and Mennonites in the U.S. Since 1875
- HRE H289 - HNR Communal and Utopian Societies
- REL 364 - Amish Society (SO 364)
- REL 480-489 - Independent Study in Religious Studies (History of Christianity)

At least three of the following:

- REL 105 - HUM Exploring Religion and Religions
- REL 235 - Emerging Religions
- REL 236 - Myth, Magic, and Religion
- REL 344 - The Nonviolent Ethics of Martin Luther King, Jr.
- REL 352 - Psychology of Religion
- REL 385 - Seminar in History of Christianity

- SO 317 - Sociology of Religion

At least one of the following:

- HI 101 - HUM United States History to 1877
- HI 102 - HUM United States History Since 1877
- HI 312 - Rise of Europe, 400 - 1400
- HI 315 - The Early Modern World: Religion, Renaissance and Encounter
- PCS 165 - HUM Peace, War, and Nonviolence

Religious Studies major with a concentration in Ministry Studies

Student Learning Outcomes for Ministry Studies concentration:

Students will be able to:

- Analyze the doctrines and practices of Christianity within their historical, biblical and theological contexts.
- Appraise the diversity of thought and practice both within the Christian tradition and in other religious traditions.
- Apply knowledge about religious beliefs and values to particular ministry situations.

Course requirements:

- PCS 165 - HUM Peace, War, and Nonviolence or
- REL 145 - HUM Jesus and Moral Life

- REL 185 - In the Way: Introduction to the History and Thought of Christianity or
- REL 284 - Anabaptist and Pietist Movements

- REL 225 - NCH The Hebrew Bible and Ancient Near East or
- REL 226 - WCH The New Testament

- REL 252 - Vocation and Church in the 21st Century
- REL 253 - Theology Through Film
- Two ancient or modern language courses
- Two electives with a maximum of two departmentally-approved electives in disciplines outside of Religious Studies

- REL 470-474 - Internship in Religious Studies
  OR
- REL 490 - Senior Seminar in Religious Studies I and
- REL 491 - Senior Seminar in Religious Studies II

At least one of the following:

- REL 105 - HUM Exploring Religion and Religions

- REL 235 - Emerging Religions
- REL 238 - Contemporary Pagan Religions
- REL 290 - NCH Dharma Traditions: Hindu, Buddhist, Jain, and Sikh
- REL 291 - Indic Religions: Hinduism, Jainism, and Sikhism
- REL 292 - Buddhism
- REL 293 - Islam

At least one of the following:

- REL 323 - Women, Gender, and the Hebrew Bible
- REL 325 - Seminar in Biblical Studies
- REL 344 - The Nonviolent Ethics of Martin Luther King, Jr.
- REL 345 - Seminar in Christian Social Ethics
- REL 352 - Psychology of Religion
- REL 355 - Seminar in Ministry Studies
- REL 385 - Seminar in History of Christianity
- REL 392 - Religion in China and Japan
- REL 393 - Indian Philosophy

Double Majors:

Students who have chosen Religious Studies as a second major may petition the Department for a two-course reduction in the major requirements, for a program of 10 courses totaling no fewer than 36 credits.

Electives:

In addition to courses from within the Department to complete their major in Religious Studies, students may choose to take a maximum of two courses from these offerings in other Departments:

- HI 311 - The Ancient World
- HI 312 - Rise of Europe, 400 - 1400
- HI 315 - The Early Modern World: Religion, Renaissance and Encounter
- PH 201 - WCH History of Western Philosophy I
- PH 320 - Philosophy of Religion
- PS 328 - Politics and Religion
- SO 317 - Sociology of Religion
- SO 364 - Amish Society (REL 364)

Religious Studies Minor

The **Religious studies minor** consists of six courses totaling no fewer than 20 credits from the Religious Studies Department (i.e., courses with a REL prefix). Religious studies minors are encouraged to see a member of the Department for advising.

Religious Studies Courses

REL 103 - HUM Religion and Nonviolence
4.00 credits. **(Humanities Core Course)** This course examines the interplay between religion and violence, the challenge of nonviolence in religious traditions, and the practice of religious nonviolence in US history. Special attention will also be granted to religious terrorism.

REL 105 - HUM Exploring Religion and Religions
4.00 credits. **(Humanities Core Course)** A survey introducing historical origins, practices and beliefs of many of the world's religious traditions and the methods of inquiry in the various disciplines in the field of religious studies. Theories of the nature and origin of religion, and categories such as the sacred, myth, scripture, ritual, ethics, religious change and questions of religious truth are explored. Significant attention to the contemporary environment of religion is granted.

REL 145 - HUM Jesus and Moral Life
4.00 credits. **(Humanities Area of Core)** This survey course explores the moral vision of Jesus and introduces Christian ethical reflections on social institutions (for example, the state and market) and social actions (for example, peacemaking and distributing capital). A fundamental part of this course is an exploration of the sources, types and contexts of Christian social ethics.

REL 151 - Life Meaning and Purposeful Work
2.00 credits. This course will explore what it means to live purposefully in terms of traditional and contemporary understandings of vocation and life calling. Emphasis will be placed on the nexus between theological and philosophical understandings of the meaning of life and the moral life. Students will be invited to think about specific life work and career choices within the context of larger theological, ethical, aesthetic or philosophical commitments.

REL 185 - In the Way: Introduction to the History and Thought of Christianity
3.00 credits. This course introduces major themes in the study of the history of Christianity from its origins to the present. The course also explores some historical developments of doctrine and ritual. Students will study some aspects of women's involvement in the history of Christianity. The course will introduce students to some of the historical developments of Christian architecture, art and music.

REL 213 - PLO Biblical Hebrew I
4.00 credits. **(Power of Language Core Course)** A beginning study of the alphabet, grammar, and vocabulary of Biblical Hebrew, designed to develop basic reading competence and an understanding of the challenges of translating the Hebrew Scriptures into English. Offered as needed.

REL 214 - Biblical Hebrew II
4.00 credits. Continues the study of Biblical Hebrew grammar and vocabulary. **Prerequisite(s):* REL 213, or permission of the instructor.

REL 215 - Koiné Greek I
4.00 credits. A beginning study of the alphabet, grammar and vocabulary of New Testament Greek, designed to develop basic reading competence and an understanding of some of the challenges one faces when translating the New Testament into English.

REL 216 - Koiné Greek II
4.00 credits. Continued study of Koiné Greek grammar and vocabulary. Translation exercises are taken from the Septuagint and the New Testament. **Prerequisite(s):* REL 215, or permission of instructor. Offered as needed.

REL 217 - PLO Sanskrit I
4.00 credits. **(Power of Language Core Course)** This course is an introduction to Sanskrit, designed to develop basic reading competence as well as a general knowledge of grammatical principles, an elementary vocabulary, and a sense of the relationship of the structure of the Sanskrit language to classical Indian culture and philosophy. This course, if completed successfully, can also serve as a basis for further study of Sanskrit and other South Asian languages (i.e. Hindi, Bengali, etc.). It can also serve as a basis for the study of other ancient languages (given its cultivation of skills common to the study of a variety of such languages–the mastery of an alphabet other than the Roman, classical grammatical terms, etc.). Offered as needed.

REL 218 - Sanskrit II
4.00 credits. This course is a continuation of Sanskrit I, designed to further develop and enhance basic reading competence and to broaden general knowledge of grammatical principles, an elementary vocabulary, and a sense of the relationship of the structure of the Sanskrit language to classical Indian culture and philosophy. **Prerequisite(s):* REL 217. Offered as needed.

REL 225 - NCH The Hebrew Bible and Ancient Near East
4.00 credits. **(Non-Western Cultural Heritage Core Course) *A Guided Writing and Research Course.** An introduction to the Hebrew Bible with emphasis on its ancient Near Eastern context. Readings will include myths, stories, laws, hymns, poetry and wisdom texts from Egypt, Babylonia and Ugarit, in addition to selected readings from the Bible (Tanakh or Old Testament).

REL 226 - WCH The New Testament
4.00 credits. **(Western Cultural Heritage Core Course) *A Guided Writing and Research Course.** An introduction to the literature of the New Testament, with emphasis on the first-century Mediterranean context. Spring semester.

REL 235 - Emerging Religions
3.00 credits. This course is a comparative and interdisciplinary introduction to the growing number of New Religious Movements (NRMs) appearing worldwide in the last 175 years. Topics focus on charismatic leaders, the Anti-cult Movement, gender issues, and violence and abuse within NRMs. The course also explores why NRMs have formed in increasingly greater numbers, especially in the United States., since World War II, and the role that secularization and environmental concerns has played in their formation. Spring semester, alternating years.

REL 236 - Myth, Magic, and Religion
3.00 credits. This introductory course focuses on the origins of mythology, as well as the expression and development of myths and mythic themes throughout the ages. It is a cross-cultural exploration of the relationship between mythology, systems of ritual magic, and the development of early forms of religion, especially those of ancient Europe, the Middle East, Asia, Africa and the Americas. The course is interdisciplinary, focusing on the historical, anthropological, and psychological, aspects of mythology and religion. Spring semester, alternating years.

REL 237 - Polytheism, Animism, and Shamanism
3.00 credits. A survey of indigenous religious traditions worldwide, both ancient and contemporary, with a theoretical and comparative introduction to the way in which these traditions incorporate the practices of polytheism, animism and shamanism. The course explores religious traditions from ancient cultures including Japan, India, Greece and Scandinavia. Comparisons are made with contemporary practices in cultures ranging from Oceania and the Americas to Africa and Asia, focusing on the incorporation of nature into religious practice and belief. Fall semester, alternating years.

REL 238 - Contemporary Pagan Religions
3.00 credits. This course is a comparative introduction to the contemporary revival and indigenous survival of various pagan traditions existing before the current era, especially those found in western and northern Europe. Primary resources will include current Pagan journals, websites and writings. The course reviews the main traditions found in modern Paganism, including Wicca, Druidry, Heathenism, shamanism and Goddess Spirituality. Special attention will be given to comparing polytheistic traditions, from ancient roots to recent syncretistic revivals. Fall semester, alternating years.

REL 252 - Vocation and Church in the 21st Century
4.00 credits. This course invites students to reflect theologically on vocation and the church within the context of the changing landscape of the postmodern world. Emphasis will be placed on the trends and issues that challenge the church in the 21st century. While the course and its readings will focus primarily on the Christian church in the United States, the course also will discuss trends, issues and methods that may apply to synagogue, temple or mosque. Alternate years.

REL 253 - Theology Through Film
4.00 credits. This course invites students to reflect theologically on the content of contemporary films. While film style and technique will be discussed to a limited extent, the course will be oriented unapologetically toward viewing narrative, plot, character development, imagery, symbols and values in the light of implicit and explicit religious, spiritual, mythological, ideological and ethical themes. Some attention will be given to various methodologies and theoretical issues in the field of religion and film. Spring semester, alternating years.

REL 261 - Peacemaking and Social Justice in the Bible
4.00 credits. An examination of biblical texts relating to peacemaking and social justice and the ways in which those texts have been interpreted by Christian ethicists and theologians. Every four years.

REL 264 - Religion and Violence
4.00 credits. Through an exploration of a variety of religious traditions and historical case studies, this course engages in a cross-cultural, multidisciplinary examination of the role of religion in promoting both violence and nonviolence. Topics include religiously motivated terrorism, religious responses to globalization and secularism, religion and the politics of identity, and religious views on the ethical treatment of animals and the environment. Alternate years.

REL 267 - HUM Radical Christianity
4.00 credits. **(Humanities Core Course)** This course will explore radical Christian thought in the United States since the latter half of the twentieth century, granting special attention to ethical methodologies and perennial issues in Christian social ethics—for example, sexuality, politics, animals, race, and poverty.

REL 284 - Anabaptist and Pietist Movements
4.00 credits. An introduction to the major events, personalities, beliefs and cultural life of representative Anabaptist and Pietist movements. Primary focus will be given to the European origins and immigration to America of the Mennonites, Amish, Brethren and Moravians. Special attention will be given to the background of these movements in the Protestant Reformation, and their place within the wider Believer's Church, or Free Church, wing of European and American religious life. Fall semester.

REL 290 - NCH Dharma Traditions: Hindu, Buddhist, Jain, and Sikh
4.00 **(Non-Western Cultural Heritage Core Course)** This course is an introduction to and overview of the four major religions, or dharma traditions, that originated in the Indian subcontinent: Vedic dharma (popularly known as Hinduism), Buddhism, Jainism, and Sikhism. The course will examine the distinctive beliefs and practices of each tradition, while also emphasizing the common features, historical interactions, and close interconnections–both

social and theological–among all four. Students who have received credit for either REL 291 OR REL 292 will receive 2.00 credits for the completion of this course. Students who have received credit for REL 291 AND REL 292 may not enroll in this course.

REL 291 - Indic Religions: Hinduism, Jainism, and Sikhism
4.00 credits. An introduction to the Hindu tradition and the traditions that have emerged from it - Jainism, Buddhism and Sikhism - as well as its historical interactions with Islam, Zoroastrianism and Christianity. Basic Hindu concepts and practices are introduced and the history of the tradition is explored from the ancient Harappan civilization to modern times.

REL 292 - Buddhism
4.00 credits. An introduction to the Buddhist tradition in all of its various forms - Theravada, Mahayana and Vajrayana - and its interactions with Confucianism, Taoism and Shinto. Basic Buddhist concepts and practices are introduced and the history of the tradition is explored from the life of the Buddha to modern times. Issues range from the paranormal (karma, reincarnation and the nature of the Buddha) to the political with strong emphasis on Buddhist philosophy.

REL 293 - Islam
4.00 credits. An introduction to the teachings, practices and history of Islam. Alternate years.

REL 313 - Intermediate Biblical Hebrew
Variable (1.00 to 4.00) credit(s). This course is designed to develop students' ability to read and translate Biblical Hebrew. The class meets weekly to read, translate and discuss a short passage from the Bible. Students will prepare the passage in advance of the session. Students may choose to take this course for one to four credits, with there being one hour of class time for every credit earned. Assignments will be determined based on the number of credits chosen. The course may be repeated for a maximum of eight credits. **Prerequisite(s):* REL 214. Offered as needed.

REL 323 - Women, Gender, and the Hebrew Bible
4.00 credits. An upper-level seminar in biblical studies offering advanced study of selected Hebrew Bible texts that reflect attitudes about women, sexuality and gender. Readings will include selections from both the Hebrew Bible and related secondary literature. Emphasis is on the study of women and gender in the Hebrew Bible, and students will read primarily feminist scholarship. Some attention is given to gender from the perspective of the more recent fields of gender studies and men's studies. **Prerequisite(s):* REL 225. Alternate years.

REL 325 - Seminar in Biblical Studies
4.00 credits. Advanced work in the field of biblical studies. Changing topics. Possible topics include Wisdom Literature, Prophecy and Apocalyptic, Book of Genesis, Jesus and the Gospels, and The Apostle Paul. **Prerequisite(s):* REL 225 for seminars in Hebrew Bible; REL 226 for seminars in New Testament. Every four years. This course is repeatable for credit.

REL 344 - The Nonviolent Ethics of Martin Luther King, Jr.
4.00 credits. An introduction to the social ethics of Martin Luther King Jr., the course explores the sources, substantive content and evolution of King’s reflections on social institutions (the state and market), social actions (peacemaking and redistributing resources), social roles (prophet and politician), and moral character. King’s social ethics in relationship to his theological beliefs and personal practices are examined. Every four years.

REL 345 - Seminar in Christian Social Ethics
4.00 credits. Upper-level seminar, designed especially for students with a concentrated interest in theology and ethics, offers an advanced study of major issues and figures in Christian social ethics. Sections include Christianity and politics, Christian liberation ethics, and Christian attitudes toward war and peace. The seminar, led in part by

students, is devoted to careful exegeses of, and writing about, the primary texts of major Christian ethicists. Offered every three years. This course is repeatable for credit.

REL 352 - Psychology of Religion
4.00 credits. An examination of the classic issues in the psychology of religion. Readings in William James, Peter Berger, Carl Jung and Sigmund Freud. Alternate years.

REL 355 - Seminar in Ministry Studies
4.00 credits. An in-depth examination of specialized topics and issues in the area of ministry studies. Theoretical models, contemporary issues and practical applications in specific ministry contexts are emphasized. Topics vary, so the course may be repeated under new topics. Sections may include Servant Leadership, Spiritual Formation, Ministry with Children and Youth, and Women in Ministry. **Prerequisite(s):* REL 252, or permission of the instructor. This course is repeatable for credit.

REL 364 - Amish Society (SO 364)
4.00 credits. The history, culture and social organization of the Old Order Amish. Sociological theories and models utilized by social scientists to describe and analyze the Amish will be presented. Special attention will be paid to recent social changes among the Amish.

REL 370-378 - Special Topics in Religious Studies
4.00 credits. Topics not included in the regular curriculum. Offered as needed. Register by Instructor. This course is repeatable for credit.

REL 385 - Seminar in History of Christianity
4.00 credits. Offers advanced work in the History of Christianity. Topics include "Brethren Life and Thought." **Prerequisite(s):* REL 185 or REL 284, or permission of the instructor. Offered as needed. This course is repeatable for credit.

REL 391 - Hinduism and Modernity
4.00 credits. An in-depth exploration, building on the foundation established in Religious Studies 291, of issues facing contemporary Hinduism. This course covers the British colonization of India; the Bengal Renaissance; Hindu reform movements; the life and teachings of such figures as Sri Ramakrishna, Swami Vivekananda, Mahatma Gandhi and Sri Aurobindo; Hinduism and science; and Hindu nationalism in the late 20th and early 21st centuries. Particular attention will be paid to issues arising from the spread of Hinduism beyond the subcontinent, especially in the West, and the impact of Hinduism upon Western culture, from the transcendentalists to the theosophists to the Beatles. **Prerequisite(s):* REL 290 or REL 291.

REL 392 - Religion in China and Japan
4.00 credits. An in-depth exploration, building on the foundation established in Religious Studies 292, of the religious traditions of China and Japan: Daoism, Confucianism, Shinto, and Chinese and Japanese forms of Buddhism. Readings will be drawn mainly from primary sources in English translation, such as the Daodejing, the Chuang-tzu, the Analects of Confucius, the Kojiki, and the Shobogenzo of Dogen, as well as writings by modern Zen masters and scholars such as D.T. Suzuki and Alan Watts. **Prerequisite(s):* REL 290 or REL 292.

REL 393 - Indian Philosophy
4.00 credits. An in-depth exploration of classical Indian philosophy: Hindu, Buddhist and Jain. Readings will be drawn mainly from primary sources in English translation, such as the Upanishads, the Tripitaka, the Bhagavad-Gita and the Tattvartha Sutra, and the writings of such central figures of the Indic philosophical tradition as Nagarjuna, Vasubandhu, Shankara, Ramanuja and Haribhadrasuri. **Prerequisite(s):* REL 291 and REL 292, or REL 290.

REL 470-474 - Internship in Religious Studies
Variable (3.00 to 15.00) credits. Students spend one full day a week working in a church, nonprofit institution or research organization with religious-based interests in return for three academic hours of credit. Internships are primarily unpaid experiences, but some organizations may offer a stipend or form of payment. Course requirements are decreased or increased as deemed appropriate by the Internship Advisor. Register by Instructor. This course is repeatable for credit.

REL 480-489 - Independent Study in Religious Studies
Variable credit. Individual study in areas of interest for students capable of conducting independent research. **Prerequisite(s):* Approval of the Department Chair and the Independent Study Committee. Register by Instructor. This course is repeatable for credit.

REL 490 - Senior Seminar in Religious Studies I
2.00 credits. An integrative, capstone course in religious studies. Students will read, discuss, and analyze secondary literature and develop a proposal for a major paper, which they will complete in the spring semester. Register by Instructor. Fall semester.

REL 491 - Senior Seminar in Religious Studies II
2.00 credits. An integrative, capstone course in religious studies. Students will complete an independent research project that results in a major paper and oral presentation. **Prerequisite(s):* REL 490. (Although not recommended, REL 490 may be taken as a corequisite.) Register by Instructor. Spring semester.

Honors Religious Studies Courses

HRE H285 - HNR WCH Amish, Brethren, and Mennonites in the U.S. Since 1875
4.00 credits. **(Western Cultural Heritage Core Course - Honors) *A Guided Writing and Research Course.** An interdisciplinary study of the Amish, Brethren, and Mennonite experience (beliefs, history, practices) in the context of modern American culture. Primary attention focuses on understanding how these communities responded to major modernizing developments in western culture since 1875—the industrial revolution, the modern state, individuation, conscription, the rise of technology, compulsory education, understandings of progress, and religious pluralism. The course will explore how such changes in western cultural heritage have encouraged assimilation, fragmentation, and in some cases reactionary (Old Order) movements within Anabaptist groups. Register by Instructor. Spring semester.

HRE H289 - HNR Communal and Utopian Societies
4.00 credits. This course will examine various types of communal societies, frequently known as utopian or intentional communities, that have sought to institute an ideal social order, a "heaven on earth." Historic and contemporary religious expressions of American communal development are emphasized. Case studies include the Ephrata Society, Brook Farm, Oneida, New Harmony, The Amana Colonies, the Hutterites, the Shakers, Reba Place Church and the Catholic Worker Movement, among others. Register by Instructor. Fall semester.

Department of Social Work

Mapp (Chair), Dunlap, McFarland

For more information, please visit the Department's website or check your course syllabi, which are available through the course instructor or at the High Library.

The mission of the Elizabethtown College Social Work Department is to prepare competent and committed social workers who have integrated social work knowledge, values and skills, and who work for social and economic justice locally, nationally and globally. Consistent with the Elizabethtown College motto, "Educate for Service," we strive to provide a generalist social work education that is based upon a strong liberal arts foundation integrated with extensive field experience.

The social work program is accredited by the Council on Social Work Education and has established the following goals:

Goal One: To develop competent and committed entry-level generalist social workers grounded in a liberal arts perspective and a professional foundation, whose practice is guided by social work knowledge, professional values, and ethical standards of behavior, and who can work with multi-level systems in serving diverse and oppressed populations.

Goal Two: To develop social workers who, recognizing the strengths inherent in human diversity, advocate for social and economic justice and empower clients within a global context.

The program provides an extensive opportunity for field experience beginning in the first year. The major culminates with 600 hours of field instruction during the student's senior year. Field experiences are arranged to meet the student's individual interest. Field experiences include, but are not limited to, such areas as child welfare, corrections, mental health, rehabilitation, health care, schools and aging. International internships are also available.

Major Offered

The Department of Social Work offers a **Bachelor of Social Work**.

Prospective social work majors must apply for admission to the program in the spring semester of their second year. This application requires the following:

A formal interview with a social work faculty member during which professional interests and abilities are explored.

Two reference rating forms.

A short essay describing the applicant's interest in the field of social work.

A 2.00 cumulative grade point average.

Admittance into the program does not guarantee that the student will graduate with a degree in Social Work. The advisor – in conjunction with the Social Work faculty – reserves the right to dismiss a student from the major on the basis of unprofessional behavior and/or academic performance. The standards for professional conduct as expressed in the National Association of Social Workers Code of Ethics serve as the Department's standards for determining dismissal from the program. The student has the right to appeal the decision in the same manner as dismissal for academically related reasons. These policies are articulated in both the Department handbook and on the website.

In order to remain in the Department, the student must obtain a minimum grade point average of 2.00 in all social work courses required by the major. Social Work students must achieve a grade of C or higher in all courses required within the Social Work Department. If a student receives a C- or below in any of these classes, they will be required to repeat the class.

Minor Offered

The Department of Social Work participates in an interdisciplinary minor in **Human Services**. Students majoring in Social Work are prohibited from declaring the Human Services minor. For more information, contact Dr. Susan Mapp.

Honors in the Discipline

The Department of Social Work participates in the College Honors in the Discipline Program. For guidelines, students should consult the Department Chair.

Social Work (B.S.W.)

Student Learning Outcomes for Social Work:

Students will be able to:

- Identify as a professional social worker and conduct oneself accordingly.
- Apply social work ethical principles to guide professional practice.
- Apply critical thinking to inform and communicate professional judgments.
- Engage diversity and difference in practice.
- Advance human rights and social and economic justice.
- Engage in research-informed practice and practice-informed research.
- Apply knowledge of human behavior and the social environment.
- Engage in policy practice to advance social and economic well-being and to deliver effective social work services.
- Respond to contexts that shape practice.
- Engage, assess, intervene, and evaluate with individuals, families, groups, organizations, and communities.

The Social Work major requires the following courses:

- SW 160 - SSC Social Problems and Response of Social Welfare Institutions
- SW 233 - Human Behavior in the Social Environment
- SW 280 - Multicultural Counseling Skills
- SW 330 - Methods of Social Work Research

- SW 367 - Generalist SW Practice I: Individuals
- SW 368 - Generalist SW Practice II: Families and Small Groups
- SW 369 - Generalist SW Practice III: Communities and Organizations
- SW 380 - Social Policy
- SW 470 - Field Instruction I
- SW 471 - Field Instruction II
- SW 498 - Senior Seminar in Social Work
- Any 100-level Biology course
- MA 251 - MA Probability and Statistics
- PSY 105 - SSC General Psychology
- SO 101 - SSC Discovering Society

Social Work Courses

SW 160 - SSC Social Problems and Response of Social Welfare Institutions
4.00 credits. **(Social Sciences Core Course)** An orientation to the sociological and social work approaches of examining social problems and the development of social welfare policies and programs to reduce their severity and extent. An understanding of both sociological and social work theories and the way in which these theories form the foundation for research, service and advocacy is emphasized. Fifteen (15) hours of service-learning are required.

SW 233 - Human Behavior in the Social Environment
4.00 credits. This course provides a study of the interrelationships of social systems, with particular emphasis upon the impact of the environment on human development throughout the life span. Special consideration is given to the influence of ethnicity, racism, sexism and ageism upon human behavior. Fifteen (15) hours of service-learning are required.

SW 260 - International Social Development
4.00 credits. The impact of the history, traditions and beliefs of different non-Western cultures on the development of social issues will be examined. The history of the problem, its context and development within the culture, and attempts at resolution will be explored. Students will be able to understand why common issues assume different forms in different cultures.

SW 280 - Multicultural Counseling Skills
4.00 credits. Theories explaining human behavior and social interaction, in the context of social systems and social welfare, are discussed, analyzed and critically reviewed. Students learn about the cultural heritage of diverse groups, and about the need for equality and social and economic justice for all oppressed people. Students learn and role-play interpersonal relationships skills in a laboratory situation. Fifteen (15) hours of service-learning in a diverse setting is required.

SW 330 - Methods of Social Work Research
4.00 credits. A focus upon the basic elements of the scientific method providing an overview of research designs commonly used in social sciences, including techniques for gathering, analyzing and presenting data. **Prerequisite(s):* SW 160, SW 233, or permission of the instructor. **Prerequisite* or **Corequisite*: MA 251. Fall semester.

SW 339 - Human Sexuality
4.00 credits. This course focuses on the socio-historical aspects of sexuality, survey and experimental research, and attitudes towards sexuality.

SW 344 - Aging: Social Response and Implications
4.00 credits. An examination of the aging process in our society. The emphasis is on the interface of the individual and the environment and the services, needs and institutions related to the elderly. Field trips to community agencies and 10 service-learning hours required.

SW 345 - Irish Perspective on Issues of Social Welfare & Education
3.00 credits. This course is comprised of a 14-day international trip to the Republic of Ireland and Northern Ireland. Students will gain an understanding of: cultural differences, history, politics, educational systems and the social service delivery network in Ireland through this international experience. This course emphasizes service-learning and reflection. The course is open to all majors upon approval of the instructor. Register by Instructor.

SW 346 - Exploring the Culture and Services of Vietnam
2.00 credits. This course serves as an introduction to the history and culture of Vietnam as it relates to the social problems and social services in modern-day Vietnam. Lectures will provide background on social services and non-profit organizations, specifically Brittany's Hope Foundation. Class periods will focus on the Vietnam War and development of basic language and communication skills. Later class periods will focus on the development of appropriate age and ability level activities for the children. Finally, there will be a focus on successful fundraising strategies. The course is a prerequisite for students participating in the May-term Service Learning Trip to Vietnam. **Prerequisite(s):* Acceptance to the May term trip to Vietnam (SW 347). Register by Instructor. Alternating spring semesters.

SW 347 - May Term in Vietnam
2.00 credits. This course is comprised of a seventeen-day international trip to Vietnam. Students will have the opportunity to examine issues of culture, poverty, social development, and the needs of orphaned children in Vietnam through direct service learning, lectures, and reflective sessions. **Prerequisite(s):* SW 346. Graded Pass/No Pass. Register by Instructor. Alternating May terms.

SW 355 - Women in Society
4.00 credits. This course is designed to provide a systemic view of women in our society. The emphasis will include the socialization of women, women's roles historically and in our major social institutions, sexism and the feminist movement. Feminist social work practice and its connection to feminist ideology theory will be explored.

SW 357 - Child Welfare
4.00 credits. A study of ethnic, cultural and economic problems as they relate to children, the services available to combat those problems, and the legal and legislative aspects of child welfare.

SW 366 - Addiction and Society
4.00 credits. An examination of individual, family and social implications of addiction in society and an exploration of social policies related to addiction.

SW 367 - Generalist SW Practice I: Individuals
4.00 credits. A focus on problem solving in generalist practice at the micro level (i.e., individuals) with diverse populations. A variety of interventions, assessment techniques and theories are studied in preparation for a required 40-hour supervised field experience. **Prerequisite(s):* SW 160, SW 233 , or permission of the instructor, and social work majors only. Fall semester.

SW 368 - Generalist SW Practice II: Families and Small Groups
4.00 credits. A study of the knowledge, values and skills that comprise the generalist base of social work practice. It is designed to assist students in developing basic entry-level social work competencies to work with groups and families from a systems perspective. A 40-hour supervised field experience is required. **Prerequisite(s):* SW 367, or permission of the instructor **Corequisite(s):* SW 369; and social work majors only.

SW 369 - Generalist SW Practice III: Communities and Organizations
4.00 credits. Theory and skills development for macro generalist social work practice are presented. Promoting the social welfare of communities and organizations by enhancing social and economic justice is stressed. **Prerequisite(s):* SW 330, or permission of the instructor **Corequisite(s):* SW 368; and social work majors only. Spring semester.

SW 370-378 - Special Topics in Social Work
Variable credit. Topical areas in social work, chosen in accord with student and faculty interest. This course is repeatable for credit.

SW 380 - Social Policy
4.00 credits. Students build their knowledge of social welfare and social work's historical and philosophical foundation. They learn why and how social policy is formulated and implemented, how policy impacts direct practice, and frameworks for policy analysis. **Prerequisite(s):* SW 330, SW 367 or permission of the instructor, and social work majors only. Spring semester.

SW 400 - Senior Project in Social Work
2.00 credits. Students who are completing a senior research project may register for this course in the semester in which the project is completed. Completion of this course does not assure recognition for Honors in the Discipline. Majors only. Register by Instructor.

SW 470 - Field Instruction I
6.00 credits. Supervised field instruction for at least 200 hours in an agency. Student begins to assume responsibility with client systems in such ways as monitoring tasks, providing support, conducting group activities, and assisting the social worker with other professional responsibilities. **Prerequisite(s):* SW 380 or permission of the instructor, and social work majors only. Graded Pass/No Pass. Fall semester.

SW 471 - Field Instruction II
12.00 credits. Supervised field instruction for at least 400 hours plus a weekly on-campus seminar. Students proceed from an "assistant" position to one of complete client responsibility under direct supervision. Roles students assume may include advocate, enabler, social broker and program planner. **Prerequisite(s):* SW 470 or permission of the instructor, and social work majors only, **Corequisite(s):* SW 498. Graded Pass/No Pass. Spring semester.

SW 480-489 - Independent Study in Social Work
Variable (1.00 to 4.00) credits. Opportunity for advanced students independently to pursue study otherwise not available in the curriculum. **Prerequisite(s):* Permission of the Department Chair and approval of the Independent Study Committee. Register by Instructor. This course is repeatable for credit.

SW 498 - Senior Seminar in Social Work
4.00 credits. Final course integrating the theory from preceding courses with the professional experience of field instruction. A major project is required. **Corequisite(s):* SW 471, or permission of the instructor, and social work majors only. Spring semester.

Department of Sociology and Anthropology

Kelly-Woessner(Chair), Kanagy, Kozimor-King, Kraybill, Newell, Shah, Wheelersburg

For more information, please visit the Department's website or check your course syllabi, which are available through the course instructor or at the High Library.

The Department's programs provide for the study of interpersonal and intergroup relationships and the growth, changes, structures and processes of human society. The courses – reflecting the philosophical tradition of Elizabethtown College – are designed to prepare students for service and leadership in a complex society.

Majors Offered

The Department offers a major in **Sociology-Anthropology** with concentrations in **Sociology**, **Anthropology**, or **Criminology & Criminal Justice**. The Department also participates in the **Social Studies certification program** that prepares students to be secondary teachers.

Minors Offered

The Department of Sociology and Anthropology offers an **Anthropology minor** and a **Sociology minor**.

Honors in the Discipline

The Department of Sociology-Anthropology participates in the College Honors in the Discipline Program. For guidelines, the student should consult the Department Chair.

Sociology-Anthropology (B.A.)

Student Learning Outcomes for Sociology-Anthropology:

Students will be able to:

- Design a professional-quality research proposal that incorporates one of several data measurement tools.
- Conduct professional- quality social research utilizing quantitative and qualitative data with a variety of statistics techniques.
- Carry-out in-depth cross-cultural analysis of non-Western and Western societies and cultural systems.
- Defend the value of cultural diversity in heterogeneous societies.
- Examine and question aspects of their own culture to gain a stronger conception of their place in this ever-changing global society.
- Explain the place of humankind in the continuum of nature and articulate the responsibility that this position entails.
- Compare social theories in order to explain the world in which we live.

- Articulate a perspective appropriate to their discipline in order to make a personally meaningful contribution to self and society.

The **Sociology-Anthropology major** emphasizes conceptual and applied approaches in both disciplines so that the student is prepared for a variety of career opportunities. Students majoring in Sociology-Anthropology move directly into careers in business, government, criminal justice, survey and marketing research, religious settings, and in other fields in which knowledge of society and human behavior is important. Some go on to graduate school seeking higher degrees in sociology, anthropology, public health, hospital administration, social planning, social work, law and business administration.

The Sociology-Anthropology major requires 50 credits:

Students complete 34 credits from the common track and 16 credits in one of three concentrations.

The common track requires:

- SO 101 - SSC Discovering Society
- SAN 105 - Introductory Seminar for Sociology and Anthropology
- AN 111 - NCH Understanding Human Cultures
- AN 201 - NPS Principles of Biological Anthropology
- SAN 205 - Social Theory
- SAN 330 - Research Methods
- SAN 331 - Statistical Analysis
- SAN 405 - Senior Seminar for Sociology and Anthropology
- MA 251 - MA Probability and Statistics

- AN 470-474 - Internship in Anthropology or
- SO 470-474 - Internship in Sociology

Sociology concentration:

The **Sociology concentration** requires:

- SO 204 - SSC Population and Global Issues
- Three Sociology electives, at least one must be 300-level

Anthropology concentration:

The **Anthropology concentration** requires:

- AN 306 - Indians of North America or
- AN 307 - People and Cultures of Africa or
- AN 308 - People and Cultures of Latin America

- Three Anthropology electives, at least one must be 300-level

Criminology & Criminal Justice concentration:

The **Criminology & Criminal Justice concentration** requires:

- SO 215 - Criminology
- SO 217 - U.S. Criminal Justice System
- Two Criminology and Criminal Justice electives, at least one must be 300-level

Anthropology Minor

The Anthropology minor requires 20 credits of course work, including:

- AN 111 - NCH Understanding Human Cultures
- AN 201 - NPS Principles of Biological Anthropology
- Three Anthropology electives, at least one must be at the 300-level

Sociology Minor

The Sociology minor requires 20 credits of course work, including:

- SO 101 - SSC Discovering Society
- Four Sociology electives, one of which must be at the 300-level

Anthropology Courses

AN 111 - NCH Understanding Human Cultures
4.00 credits. **(Non-Western Cultural Heritage Core Course)** An exploratory survey of the peoples and cultures of the world with special emphasis upon four interrelated cultural systems: economy, technology, social organization and ideology.

AN 201 - NPS Principles of Biological Anthropology
4.00 credits. **(Natural and Physical Science Core Course)** Introductory examination of humans and their biological history within the scientific framework of evolution by natural selection. The study of genetics, modern primates, the human fossil record and early cultural attainments provides a context in which to understand our place in the continuum of nature. **Prerequisite(s):* One 100-level Natural and Physical Sciences Core course with a laboratory.

AN 306 - Indians of North America
4.00 credits. A selective survey of Native American groups, past and present, with particular attention given to their historical background, modern lifestyle development, and contemporary social problems.

AN 307 - People and Cultures of Africa
4.00 credits. Ethnographic and cultural analysis of the folk background and contemporary customs of the peoples of sub-Saharan Africa, with special attention to the problems of culture change.

AN 308 - People and Cultures of Latin America
4.00 credits. Ethnographic and historical examination of the present cultures in Latin America, with emphasis on the issues of ethnicity, religion, family and gender relations, social structure, economics and urban development.

AN 361 - Archeology and Geography
4.00 credits. Methods of historical archaeology and cultural geography are covered, including field survey and documentary analysis, including diaries, letters, government records and maps.

AN 362 - Archeology Field School
Variable (2.00 to 6.00) credits. Field instruction in excavating techniques, record keeping, mapping, artifact identification, processing, cataloging and classification. Sites vary but focus on historical sites in Pennsylvania.

AN 363 - Forensic Anthropology
4.00 credits. Analysis of human skeletal anatomy from the medico-legal perspective, emphasizing recovery, bone identification, and determination of sex, ethnicity, stature and age of an individual. Register by Instructor.

AN 370-378 - Special Topics in Anthropology
4.00 credits. Occasional course offerings used to enhance the Department curriculum. This course is repeatable for credit.

AN 400 - Senior Project in Anthropology
Variable (1.00 to 4.00) credit(s). Students who have been invited and accepted to participate in the Honors in the Discipline Program may be registered for this course. Completion of this course does not assure recognition for Honors in the Discipline. **Prerequisite(s):* Invitation to Honors in the Discipline program. See Department Chair for additional information. Register by Instructor. This course is repeatable for credit.

AN 470-474 - Internship in Anthropology
Variable (0.00 to 8.00) credits. Applied field instruction in a subfield of anthropology chosen to meet the needs of the student. Graded Pass/No Pass. Register by Instructor. This course is repeatable for credit.

AN 480-489 - Independent Study in Anthropology
4.00 credits. Offers to advanced students the opportunity for independent study in areas not included in the regular offerings within the Department. **Prerequisite(s):* Approval of Independent Study Committee. Register by Instructor. This course is repeatable for credit.

Sociology Anthropology Courses

SAN 105 - Introductory Seminar for Sociology and Anthropology
1.00 credit. This course will introduce new majors to the disciplines of and the Department of Sociology and Anthropology. Students will be introduced to the expectations and opportunities in the department, receive cohort curricular advising, and learn about career options in the fields. Students will be introduced to the practices of social science research and writing. **Prerequisite(s):* Sophomore status and officially declared major in Sociology/Anthropology.

SAN 205 - Social Theory
4.00 credits. Examination and analysis of the development of the major classical and contemporary social theories with an emphasis on examining key concepts and how these have been applied in sociology and anthropology. **Prerequisite(s):* *Prerequisites: SO 101, AN 111, and SAN 105.

SAN 330 - Research Methods
4.00 credits. Basic procedures of sociological research design, sampling, measurement and data analysis. **Prerequisite(s):* SO 101. Fall semester.

SAN 331 - Statistical Analysis
4.00 credits. Basic introduction to the study of statistical techniques of social research and analysis with emphasis on reasoning with data. **Prerequisite(s):* SAN 330 and MA 251. Spring semester.

SAN 405 - Senior Seminar for Sociology and Anthropology
1.00 credit. The purpose of this one-credit course is to provide senior Sociology/Anthropology majors with skills and dispositions that will assist them in achieving their post-graduate plans. The course integrates concepts, principles, and practices from prior courses in Sociology and Anthropology, guiding students as they consolidate their understanding of the sociological and anthropological perspectives, and prepares them for a future in which they make a personally meaningful contribution to self and society. **Prerequisite(s):* Senior status and officially declared major in Sociology/ Anthropology.

Sociology Courses

SO 101 - SSC Discovering Society
4.00 credits. **(Social Sciences Core Course)** An introduction to the sociological perspective to achieve an understanding of society and its impact on the individual through exploring social reality, processes and explanation.

SO 204 - SSC Population and Global Issues
4.00 credits. **(Social Sciences Core Course)** This course is designed to introduce students to the issues, both national and global, that relate to population trends, policies and the environment. Students should leave this course with a basic understanding of demographic methods and techniques; familiarization with the three components of population studies: fertility, mortality and migration; a general knowledge of population policy issues, and a heightened awareness of the interactions between the environment and human society. Emphasis shall be placed on the sociological perspective of population and environmental issues as well as the role of the individual student in population and environmental solutions.

SO 215 - Criminology
4.00 credits. Sociological approaches to the study of crime with emphasis on current sociological theory and research.

SO 217 - U.S. Criminal Justice System
4.00 credits. An overview of the criminal justice system in the United States that examines theories of justice, policing, courts, corrections, and alternatives to addressing crime.

SO 220 - Race and Ethnic Relations
4.00 credits. Study of racial and cultural minorities in the United States and their relationships to dominant groups, including discrimination, prejudice, racial myths, and methods of reducing intergroup tensions.

SO 230 - Introduction to Urban Sociology
4.00 credits. Students will learn what sociologists have to say about urban social structure including the examination of the development of cities both historically and globally. Special focus will include suburbanization within the U.S. comparing different uses of space within local neighborhoods. Students should leave this course with a basic understanding of the core concepts of urbanization, the environmental problems associated with the urban lifestyle, and the impact of urbanization on the natural environment.

SO 301 - Social Issues
4.00 credits. A survey of major social problems including alienation, addiction, crime and poverty. Implications for public policy are stressed.

SO 305 - Marriage and Family
4.00 credits. A study of cross-cultural marriage and family patterns and the comparison of these frameworks to premarital, marital, postmarital and nonmarital aspects of family life in our society.

SO 317 - Sociology of Religion
4.00 credits. An analysis of the role and function of religion and religious institutions in society. A study of religion as a social and cultural system.

SO 342 - Modern Corrections
4.00 credits. Overview of the origins, processes, organization and contemporary trends of corrections for juveniles and adults, including problems and alternatives to current correctional policies.

SO 352 - Juvenile Law and Justice
4.00 credits. An analysis of young offenders focusing on delinquency theory, juvenile law, and components and processes of the juvenile justice system.

SO 353 - Policing in America
4.00 credits. Examines the structure of policing and police behavior in America, including the roles of police officers, decision-making strategies, community relations and problems with policing.

SO 364 - Amish Society (REL 364)
4.00 credits. An introduction to the history, culture and social organization of the Old Order Amish. Sociological theories and models utilized by social scientists to describe and analyze the Amish will be presented. Special attention will be paid to recent social changes. *Students who have taken HSO H224 may not take this course.

SO 370-378 - Special Topics in Sociology
4.00 credits. Occasional course offerings used to enhance the Department curriculum. This course is repeatable for credit.

SO 400 - Senior Project in Sociology
Variable (1.00 to 4.00) credit(s). Students who have been invited and accepted to participate in the Honors in the Discipline Program may be registered for this course. Completion of this course does not assure recognition for Honors in the Discipline. **Prerequisite(s):* Invitation to Honors in the Discipline program. See Department Chair for additional information Register by Instructor. This course is repeatable for credit.

SO 470-474 - Internship in Sociology
Variable (4.00 to 8.00) credits. Applied field instruction in a subfield of sociology chosen to meet the needs of the student. **Prerequisite(s):* Permission of Internship Supervisor. Graded Pass/No Pass. Register by Instructor. This course is repeatable for credit.

SO 480-489 - Independent Study in Sociology
Variable credit. Offers advanced students the opportunity for independent study in areas not included in the regular offerings within the Department. **Prerequisite(s):* Approval of the Department Chair and Independent Study Committee. Register by Instructor. This course is repeatable for credit.

Honors Sociology Courses

HSO H224 - HNR SSC The Amish in Modern Society
4.00 credits. **(Social Sciences Core Course - Honors) *A Guided Writing and Research Course.** Sociological theories and concepts will be used to analyze and compare Amish society with contemporary American society.

Using concepts such as power, class, culture, gender, inequality, deviance, social control and technology, the course will explore fundamental differences between Amish society and modern life. The course will examine the Amish in the context of modern culture to explore questions about how societies construct values and organize social behavior, and how their members view the idea of progress, the impact of technology on human experience, and the roots of social well-being. Register by Instructor. Fall semester. *Students who have taken SO 364 may not take this course.

Interdisciplinary Programs

Anabaptist and Pietist Studies Minor

The interdisciplinary minor in **Anabaptist and Pietist Studies** consists of 24 credits. The required introductory course, Anabaptist and Pietist Movements, is designed to orient students to the European historical and theological roots of these religious traditions. The elective courses enable students to shape a personal program of emphasis that draws on the resources of three academic disciplines: religion, history, and sociology.

For further information, contact the Anabaptist and Pietist Studies Minor Advisor, Dr. Jeffrey Bach, Department of Religious Studies.

The requirements for an Anabaptist and Pietist Studies minor are:

Required introductory course:

- REL 284 - Anabaptist and Pietist Movements

Five elective courses (20 credits) from the following:

- HI 315 - The Early Modern World: Religion, Renaissance and Encounter
- PCS 165 - HUM Peace, War, and Nonviolence
- REL 226 - WCH The New Testament
- HRE H285 - HNR WCH Amish, Brethren, and Mennonites in the U.S. Since 1875
- HRE H289 - HNR Communal and Utopian Societies
- REL 364 - Amish Society (SO 364)
- REL 385 - Seminar in History of Christianity
- SO 317 - Sociology of Religion
- SO 364 - Amish Society (REL 364)

Asian Studies Minor

An **Asian Studies minor** offers students an opportunity for cohesive study of Asia. The interdisciplinary program allows students to advance their study of Asian history, culture, language and society and can serve as preparation for a variety of careers and graduate school options.

For further information, contact the Asian Studies Minor Advisor, Dr. David Kenley, Department of History.

The requirements for an Asian Studies minor are:

Asian language courses:

- Two semesters (8 credits) of one Asian language (currently Chinese, Japanese or Sanskrit). See Course Descriptions.

Four electives (16 credits) in two different disciplines from the following:

- HI 112 - NCH History of Modern Asia
- HI 224 - History of Modern China
- HI 225 - History of Modern Japan
- HI 490 - Independent Research in History
- JA 245 - NCH From Anime to Zen: Japanese Society, Business, and Culture

- JA 496 - Japanese Senior Research Project I and
- JA 497 - Japanese Senior Research Project II

- REL 291 - Indic Religions: Hinduism, Jainism, and Sikhism
- REL 292 - Buddhism
- REL 391 - Hinduism and Modernity
- REL 392 - Religion in China and Japan
- REL 393 - Indian Philosophy
- REL 490 - Senior Seminar in Religious Studies I
- Up to two semesters of a second Asian language (see Course Descriptions)
- Up to eight credit hours from appropriate courses taken as part of a study-abroad program in an Asian country including, but not limited to, the Dalian Institute of Foreign Languages in China, Hokusei Gakuen University in Japan, and Nihon University in Japan.

Cognitive Science Minor

For further information, contact the Cognitive Science Minor Advisor, Dr. Aaron Cecala, Department of Biology.

Required Classes (12 credits):

- PSY 111 - NPS Introduction to Neuroscience
- PH 290 - Introduction to Cognitive Science
- CSC 462 - Cognitive Science Capstone

Neurobiology Track

- PSY 241 - Sensation and Perception
- BIO 314 - Behavioral Neurobiology

Psychology Track

- PSY 327 - Intelligence and Creativity
- PSY 341 - Human Cognition

Computational Track

- CS 121 - Computer Science I
- CS 434 - Green Robotics, Automation, and Machine Intelligence (EGR 434)

Cognitive Science Courses

CSC 462 - Cognitive Science Capstone
Variable (2.00 or 4.00) credits. Students will read and discuss articles in the cognitive science literature dealing with major advances in cognitive science. A paper and oral presentation on subject related to the discussion is required. **Prerequisite(s):* PH 290, PSY 111, and at least 12 credits in the minor. Register by Instructor. Fall or spring semester.

Creative Writing Minor

The **Creative Writing minor** requires six courses from those listed below. All minors take CW 386 as an interdisciplinary capstone course their junior or senior year. Of the five elective courses, at least four must be writing-based. No more than three of the five elective courses can be from the same department. It is recommended that students with limited experience in creative writing take EN 180 early in their course of study.

For further information, contact the Creative Writing Minor Advisor, Dr. Carmine Sarracino, Department of English.

Writing-based courses:

- COM 424 - Script and Screenwriting (prerequisite waived for Creative Writing minors)
- EN 180 - CE Introduction to Creative Writing
- EN 280 - Creative Writing - Poetry, Prose
- EN 281 - CE Writing and Analyzing the Short Story
- EN 286 - Creative Non-Fiction
- EN 287 - Writing Children's Literature
- TH 240 - Playwriting

Image-based courses:

- ART 105 - CE Drawing I
- ART 130 - Computer Art (prerequisite waived for Creative Writing minors)
- ART 145 - CE Digital Photography (COM 145)
- COM 145 - CE Digital Photography (ART 145)

Capstone course:

- CW 386 - Word, Web, and Design

Creative Writing Courses

CW 386 - Word, Web, and Design
4.00 credits. This advanced course fulfills the capstone course for creative writing minors and the publishing requirement for professional writing majors. The focus of the course is on the presentation of one's work, and how different approaches to presentation can further the purpose of particular projects or become aesthetic and communicative projects in themselves.

Film Studies Minor

Given the central role of film both nationally and internationally as an art form and a cultural artifact, it is not surprising that there is so much interest in every aspect of it across the globe. Film Studies is an interdisciplinary area that integrates elements of film theory and criticism, fine arts, communications, philosophy, English, psychology, and many other disciplines into a unified field of study. Students will learn about the history of cinema, formal methodologies of all facets of film making and criticism, and critical analysis of film. Students will learn how to actively watch and interpret films of all varieties, from different time periods and from all around the world. In addition to learning about film itself generally, students will have many opportunities to study film as: cultural anthropology, literature, philosophy, psychology, theology, political science, and much more.

For further information, contact the Film Studies Minor Advisor, Dr. Michael Silberstein, Department of Politics, Philosophy, and Legal Studies.

Student Learning Outcomes:

Students will be able to:

- Manifest a working knowledge of the technical and technological aspects of film and video especially as they relate to film analysis and criticism.
- Exhibit a working knowledge of film theory and criticism.
- Effectively apply methods and aesthetics learned to the critical analysis of film.
- Apply knowledge of the history of cinema.
- Discuss concepts employed in the creation and analysis of film.
- Apply their knowledge of film as a cultural artifact to social, political, cultural and ethical concerns both national and international, both past and present.
- Analyze films as literary and philosophical artifacts.
- Analyze films for their psychological insights.
- Analyze films for their ethical, religious and spiritual insights

Required courses (8 credits):

- COM 261 - Introduction to Cinema
- PH 462 - Film Studies Capstone Course

Electives - choose three courses with at least one 200-level course and at least one 300-level or above from the following (12 credits):

- EN 102 - WCH Western Literary Culture
- PSY 209 - HUM Psyche and Film
- TH 210 - NCH World Cinema, World War II to the 21st Century
- PS 225 - HUM Politics in Film and Fiction: Democracy in America

- JA 245 - NCH From Anime to Zen: Japanese Society, Business, and Culture
- REL 253 - Theology Through Film
- PS 323 - Politics Through Film and Literature
- COM 424 - Script and Screenwriting

Forestry and Environmental Management (B.S.)

The College offers a cooperative program with Duke University's Nicholas School of the Environment and Earth Sciences, which leads to a Bachelor of Science degree from Elizabethtown College and a **Master of Forestry** or **Master of Environmental Management** from Duke University. Students undertaking this major gain a wide exposure to the liberal arts by fulfilling the College's Core Program in addition to courses in the student's major. The student also gains professional training at Duke in such areas as forest resource management, resource ecology, water and air resources, resource economics and policy, coastal environmental management, or environmental toxicology, chemistry and risk assessment.

In this program, the student spends three years at Elizabethtown College, earning at least 101 credits before transferring to Duke. A grade of B- or better is required in all prerequisite courses. The student spends at least two years at Duke's School of the Environment. In the first year at Duke, the student completes the undergraduate degree requirements (24 credits) and is awarded the Bachelor of Science degree from Elizabethtown. After an additional two or three semesters, Duke awards the degree of Master of Forestry or Master of Environmental Management. The program leading to a Master of Forestry degree from Duke University is accredited by the Society of American Foresters.

In order to prepare students for the professional program at Duke, the College offers a Preforestry and Environmental Management program with major and minor concentrations in Biology, Business or Political Science. While any undergraduate major can be considered for admission to Duke, the student should take at least one year of biology, mathematics and economics.

Admission to Duke is by application and is based on an evaluation of a student's undergraduate record, Graduate Record Examination scores, letters of recommendation and interviews. To effectively compete for acceptance, the applicant's grade point average should be at least 3.50.

Student Learning Outcomes for Forestry and Environmental Management:

Students will be able to:

- Recall, synthesize, and apply material from multiple disciplines including biology, mathematics, chemistry business, political science and/or physics.
- Effectively research, synthesize and communicate scientific information.
- Design and carry out experiments to address biological questions.
- Critically analyze and formulate logical conclusions from data.
- Effectively demonstrate common laboratory techniques, doing so in accordance with accepted safety standards.

There are variations of the schedule described below. For further information, contact the Forestry and Environmental Management Major Advisor, Dr. Thomas Murray, Department of Biology.

Each student completes a major concentration in Biology, Business or Political Science, and two minor concentrations totaling 18 credits in the other two areas with at least six credits in each area. Majors must complete all Elizabethtown College Core Program requirements. The following courses should be taken:

Mathematics (four credits):

If MA 251 is not taken for Core, it is strongly recommended as an elective. If MA 121 is not taken, MA 117 will satisfy the calculus requirement.

- MA 117 - Concepts of Calculus or
- MA 121 - MA Calculus I or
- MA 251 - MA Probability and Statistics

Natural and Physical Sciences (eight credits):

- BIO 111 - Molecules, Cells, and Animal Systems
- CH 105 - NPS Fundamentals of Chemistry: Introduction to Molecular Science

Biology major concentration recommendations are:

- BIO 112 - Principles of Evolution, Ecology, and Diversity of Life

- BIO 313 - General Ecology and
- BIO 313L - General Ecology Laboratory

- Additional 18 credits in the other two concentration areas
  Note: CH 113 and CH 114 are required for environmental toxicology, chemistry and risk assessment programs

At least 11 credits from:

- BIO 211 - Genetics
- BIO 212 - Cell Biology
- BIO 235 - General Microbiology
- BIO 317 - Aquatic Ecology
- BIO 347 - Invertebrate Zoology

Business major concentration recommendations are:

- AC 101 - Introduction to Accounting
- BA 265 - Management and Organizational Behavior
- BA 330 - Legal Environment of Business
- BA 331 - Business and Commercial Law for Accounting/Financial Professionals
- CS 120 - Introduction to Computer Applications
- EC 101 - Principles of Macroeconomics
- EC 102 - Principles of Microeconomics
- Additional 18 credits in the other two concentration areas

Political Science major concentration recommendations are:

- PS 111 - SSC American National Government
- PS 301 - Mock Trial I
- PS 361 - Public Administration
- PS 471 - Capital Semester Internship
- Additional 18 credits in the other two concentration areas

General Science (B.S.)

Elizabethtown College offers a certification program in **General Science** designed to lead to a general science teaching certificate in grades 7-12 with a major concentration in biology, chemistry, earth science or physics. The requirements of each concentration include a broad exposure to the other science disciplines and to mathematics. In addition, the program provides training in the techniques of teaching along with actual teaching experience in science classrooms during the professional education sequence to ensure the student has the knowledge of and competence in teaching inquiry-based science. Upon successful completion of the program, students are certified to teach general science courses in middle and secondary schools in Pennsylvania and, by reciprocal agreement, in several other states. The Pennsylvania Department of Education requires two English courses (one writing and one literature) and two math courses for certification.

For further information, contact the General Science Major Advisor, Dr. Kathleen Blouch, Department of Education.

All concentrations require:

- ED 105 - Foundations of Teaching and Learning
- ED 151 - Early Adolescent/Adolescent Development
- ED 161 - Integrated Technology I
- ED 305 - Methods of Secondary Education
- ED 341 - ELL: Linguistic and Cultural Diversity in the Classroom
- ED 470 - Professional Internship
- ED 497 - Senior Seminar for Secondary Education
- SED 222 - Foundations of Inclusive Education (MSE 522)
- CH 105 - NPS Fundamentals of Chemistry: Introduction to Molecular Science
- CH 113 - Organic Chemistry I
- PH 200 - History and Philosophy of Science
- Two English courses for Education certification, one literature and one writing (EN 100 or EN 150)

The specific requirements for each concentration are:

Biology:

- BIO 111 - Molecules, Cells, and Animal Systems
- BIO 112 - Principles of Evolution, Ecology, and Diversity of Life
- BIO 211 - Genetics
- PHY 103 - General Physics I
- PHY 104 - General Physics II

Three courses selected from:

- BIO 235 - General Microbiology

- BIO 313 - General Ecology and
- BIO 313L - General Ecology Laboratory

- BIO 324 - General Physiology and
- BIO 324L - General Physiology Laboratory

- BIO 341 - Comparative Mammalian Anatomy
- BIO 347 - Invertebrate Zoology

Two courses selected from:

- ES 113 - NPS Earth in Space: Evolution of a Planet
- ES 114 - NPS Geosystems: Landscapes, Oceans and Atmosphere
- HES H215 - HNR Meteorology

Two courses selected from:

- MA 117 - Concepts of Calculus
- MA 121 - MA Calculus I
- MA 251 - MA Probability and Statistics

Chemistry:

- CH 114 - Organic Chemistry II
- CH 201 - Laboratory Methods in Chemistry
- CH 214 - Chemical Instrumentation
- BIO 111 - Molecules, Cells, and Animal Systems
- BIO 112 - Principles of Evolution, Ecology, and Diversity of Life
- PHY 200 - College Physics I
- PHY 201 - College Physics II
- MA 121 - MA Calculus I
- MA 122 - Calculus II

Seven credits from among:

- CH 242 - Physical Inorganic Chemistry
- CH 323 - Biochemistry I
- CH 324 - Biochemistry II
- CH 326 - Techniques of Biochemistry I
- CH 327 - Techniques of Biochemistry II
- CH 343 - Atoms and Molecules
- CH 344 - Physical Chemistry of Matter

- CH 355 - Integrated Chemistry Laboratory I

Two courses selected from:

- ES 113 - NPS Earth in Space: Evolution of a Planet
- ES 114 - NPS Geosystems: Landscapes, Oceans and Atmosphere
- HES H215 - HNR Meteorology

Earth Science:

- ES 113 - NPS Earth in Space: Evolution of a Planet
- ES 114 - NPS Geosystems: Landscapes, Oceans and Atmosphere
- HES H215 - HNR Meteorology
- ES 216 - Physical Geography
- BIO 103 - NPS Living with the Environment
- BIO 111 - Molecules, Cells, and Animal Systems
- BIO 112 - Principles of Evolution, Ecology, and Diversity of Life
- PHY 103 - General Physics I
- PHY 104 - General Physics II
- Plus one additional course (3 or 4 credits) in biology, chemistry or engineering/physics

Two courses selected from:

- MA 117 - Concepts of Calculus
- MA 121 - MA Calculus I
- MA 251 - MA Probability and Statistics

Physics:

- PHY 200 - College Physics I
- PHY 201 - College Physics II
- PHY 202 - College Physics III
- PHY 221 - Modern Physics
- PHY 353 - Advanced Physics Laboratory
- EGR 210 - Circuit Analysis
- EGR 321 - Thermodynamics
- One additional course in physics or engineering
- BIO 101 - NPS Biological Concepts

- BIO 102 - NPS Human Heredity and Inherited Diseases or
- BIO 103 - NPS Living with the Environment

- MA 121 - MA Calculus I
- MA 122 - Calculus II

Two courses selected from:

- ES 113 - NPS Earth in Space: Evolution of a Planet
- ES 114 - NPS Geosystems: Landscapes, Oceans and Atmosphere
- HES H215 - HNR Meteorology

General Science Minor

The **General Science minor** offers students the opportunity to study the natural sciences as a group, based on the view that the natural sciences together are the area of secondary interest for the student.

This minor is especially appropriate for, but not limited to, early childhood education majors with aptitude and interest in the natural sciences and others interested in cross-disciplinary content.. Although some students may wish to complete a minor in a separate science discipline, others may want a wider curricular base and mix in the content they wish to study. The General Science minor provides this while retaining unity and focus. Further, in addition to providing breadth of study of the natural sciences as a group, it allows for a measure of investigation in depth of a selected discipline.

For further information, contact the General Science Minor Advisor, Dr. Kathleen Blouch, Department of Education.

The minor in General Science requires seven courses (at least 27 credits). One required course must be selected from each of the following five disciplines:

Mathematics:

- MA 117 - Concepts of Calculus or
- MA 121 - MA Calculus I

Earth Science:

- ES 113 - NPS Earth in Space: Evolution of a Planet or
- ES 114 - NPS Geosystems: Landscapes, Oceans and Atmosphere or
- HES H215 - HNR Meteorology

Physics:

- PHY 103 - General Physics I or
- PHY 105 - NPS How Things Work or
- PHY 200 - College Physics I

Chemistry:

- CH 105 - NPS Fundamentals of Chemistry: Introduction to Molecular Science or
- CH 109 - NPS Introduction to Forensic Science or
- CH 113 - Organic Chemistry I

Biology:

- BIO 101 - NPS Biological Concepts or
- BIO 102 - NPS Human Heredity and Inherited Diseases or
- BIO 103 - NPS Living with the Environment or
- BIO 111 - Molecules, Cells, and Animal Systems

Two or more elective courses (totaling at least seven credits)

Chosen from any biology, chemistry, earth science, physics or engineering courses 200-level or above (or at 100-level if the elected course has a prerequisite in the same discipline that also must be completed). See Course Descriptions.

Human Services Minor

A minor in **Human Services**, consisting of a minimum 20 credit hours, is available. The minor provides students the knowledge, values and skills to explore society's social problems and the intricate social welfare system designed to assist people in need. It also provides the student with an overview of human behavior, social problems and the development of American social welfare institutions. **All students, except social work majors, may pursue this minor.**

For further information, contact Dr. Susan Mapp, Department of Social Work.

The requirements for the Human Services minor are (unless otherwise noted, all courses receive four credits):

Required courses:

Three required courses (12 credits) must be taken:

- SW 160 - SSC Social Problems and Response of Social Welfare Institutions
- SW 233 - Human Behavior in the Social Environment
- SW 280 - Multicultural Counseling Skills

Elective courses:

A minimum of eight elective credits from the following courses (four credit hours of which must be outside of the Department of Social Work) also must be taken:

Social Work:

- SW 260 - International Social Development
- SW 339 - Human Sexuality
- SW 344 - Aging: Social Response and Implications
- SW 345 - Irish Perspective on Issues of Social Welfare & Education
- SW 346 - Exploring the Culture and Services of Vietnam
- SW 347 - May Term in Vietnam
- SW 355 - Women in Society

- SW 357 - Child Welfare
- SW 366 - Addiction and Society
- SW 480-489 - Independent Study in Social Work

Sociology and Anthropology:

- AN 111 - NCH Understanding Human Cultures
- SO 204 - SSC Population and Global Issues
- SO 215 - Criminology
- SO 217 - U.S. Criminal Justice System
- SO 220 - Race and Ethnic Relations
- SO 301 - Social Issues
- SO 305 - Marriage and Family
- SO 342 - Modern Corrections

Education:

- ED 314 - PreK-4 Family, School, and Community Partnerships
- SED 212 - Learning Environment and Social Interaction in Inclusive Settings (MSE 512)
- SED 222 - Foundations of Inclusive Education (MSE 522)

Communications:

- COM 252 - HUM Multi-Cultural Communications

Modern Languages:

- ASL 325 - American Sign Language (two credits)

Occupational Therapy:

- OT 440 - Health Care Systems

Political Science:

- PS 361 - Public Administration
- PS 365 - Women and Politics

Psychology:

- PSY 221 - Abnormal Psychology
- PSY 225 - Developmental Psychology
- PSY 237 - Psychology of Women
- PSY 401 - Counseling Psychology

Women and Gender Studies:

- WGS 105 - SSC Sex and Gender in Society

International Studies Minor

The **International Studies minor** is an interdisciplinary minor, comprised of a cluster of foreign culture, language and international affairs courses with a largely contemporary focus. It provides the students with enhanced understanding of the conditions in the rest of the world that are making themselves felt in the daily lives of Americans. In addition to the general liberal arts goal of broadening students' horizons of awareness of other peoples and places, the minor offers a valuable complementary education for many career-oriented and pre-professional programs of study. The minor provides three principal categories of an international education: competency in a second language, knowledge of other cultures, and appreciation of global interdependence among nations.

For further information, contact the International Studies Minor Advisor, Dr. Oya Ozkanca, Department of Political Science.

Student Learning Outcomes:

Students will be able to:

- Explain the history, evolution, theory, and methods of inquiry of International Studies.
- Describe the interrelationships among the political, historical, economic, legal, cultural, religious, and geographic dimensions of international affairs.
- Communicate in a language other than English at an intermediate level through successful completion of 212 or an equivalent level.
- Analyze the interdependencies related to diversity of people, cultures, organizations, and nations in the world through an international and interdisciplinary perspective.
- Communicate effectively, both orally and in written form about a multicultural and/or international topic.
- Demonstrate critical thinking and analytical skills in research on topics related to international studies.

The requirements for an International Studies minor are 26 credits as follows:

Foundational requirement (4 credits):

- PS 245 - NCH International Relations

Language requirement (8 credits):

Two semesters of modern language at the 200-level or above. At least one of these two courses should be taken at the Elizabethtown College. Up to 4 credits can be taken at an affiliated or approved non-affiliated study abroad program. Exceptions to this language requirement can be made by petitioning the Director of the International Studies Minor (for example, students who are native or near-native speakers of a language other than English).

Three elective courses (12 credits) to be chosen from this list:

Select any three courses from the following list, with the caveat that they cannot all come from the same discipline or language (defined in practical terms by course prefix). At least one of these elective courses should be taken at the 300- or 400-level. Up to 8 credits can be taken at an affiliated or approved non-affiliated study abroad program. In addition to the elective courses listed below, students may also take a number of 370 courses that are approved by the International Studies Minor Program Committee to satisfy the minor elective requirements. Currently, these courses include: AN 370 – Scandinavian Culture, EC 372 – United Nations Seminar, and EC 373 – United Nations Seminar.

Business

- BA 197 - Introduction to International Business
- BA 290 - Emerging European Union
- BA 327 - International Financial Management
- BA 350 - European Union Simulation I (PS 350)
- BA 367 - International Management

Communications

- COM 251 - International Communications

Economics

- EC 307 - International Economics
- EC 311 - Economic Development

English

- EN 251 - HUM Multicultural Literature
- HEN H252 - HNR HUM Irony, Humor, and Despair in Modern Literature
- HEN H253 - HNR Gaelic and Anglo-Irish Ireland

Fine and Performing Arts

- ART 270 - Art of Africa, Asia, & Americas
- MU 205 - NCH World Music

History

- HI 215 - British History: Themes and Topics
- HI 224 - History of Modern China
- HI 225 - History of Modern Japan
- HI 316 - Birth of the Modern Age (1600-1800)
- HI 320 - Middle East in Modern Times
- HI 321 - North Africa in Modern Times

International Studies

- INT 470-474 - Internship in International Studies

Modern Languages

- Any 300-level course or above

Political Science

- PS 150 - NCH Introduction to Comparative Politics
- PS 252 - Latin American Society
- PS 340 - Political Violence and Terrorism
- PS 345 - American Foreign Policy
- PS 350 - European Union Simulation I (BA 350)

Religious Studies

- REL 290 - NCH Dharma Traditions: Hindu, Buddhist, Jain, and Sikh
- REL 291 - Indic Religions: Hinduism, Jainism, and Sikhism
- REL 292 - Buddhism
- REL 293 - Islam
  REL 392 - Religion in China and Japan

Social Work

- SW 260 - International Social Development

Sociology and Anthropology

- AN 111 - NCH Understanding Human Cultures
- AN 307 - People and Cultures of Africa
- AN 308 - People and Cultures of Latin America
- SO 204 - SSC Population and Global Issues

Capstone requirement (2 credits):

- INT 465 - Capstone Directed Research Project in International Studies

Note: The International Studies minors can double-count up to four courses (16 credits).

International Studies Courses

INT 370-378 - Special Topics in International Studies
Variable credits. Topical areas and problems of international studies, subjects chosen in accord with student demand. Credit variable based upon topics.

INT 465 - Capstone Directed Research Project in International Studies
2.00 credits. This course is a capstone seminar designed to integrate previous coursework in the interdisciplinary field of international studies and produce a major research project on a topic related to international studies. It is designed specifically for senior students pursuing the International Studies minor. Each student produces a major research paper and is required to present the results in front of Capstone Directed Research Project Committee, consisting of the Director of the International Studies Minor and a supervising faculty member (if both positions are filled by the same faculty member, then the student is required to invite another faculty member to serve as the reader). **Prerequisite(s):* Successful completion of all other requirements of the international studies minor) in their senior year on either fall or spring semester. Therefore, students need to successfully complete PS 245 NCH International Relations, two semesters of modern language at the 200 level or above, and three elective courses approved by the International Studies Minor Program Committee, before they become eligible for enrolling in this course. Register by Instructor.

INT 470-474 - Internship in International Studies
Variable (0.00, 2.00, or 4.00) credits. This course is an internship seminar designed to integrate previous coursework in the interdisciplinary field of international studies into the internship experience of International Studies minor students. Internship experience can clearly enhance the students' learning and is a valuable supplement to classroom instruction. The main purpose of this course is to assist students in the learning process of reflection, analysis, and integration of experiences and insights gained through their internships with the academic theory, principles, concepts, and social and ethical dimensions of international studies. This course is designed specifically for junior and senior students pursuing the International Studies minor, with a GPA or 2.0 or higher. Each student produces a research paper and a log of daily entries into their internship diary. Register by Instructor.

Peace and Conflict Studies Minor

The interdisciplinary minor in **Peace and Conflict Studies** consists of six courses and a capstone project. The curricular model incorporates three types of courses: required courses, elective courses in a variety of disciplines, and a capstone seminar research project. In order to provide students with adequate conceptual tools and conciliation skills, the program of study is multidisciplinary in both method and instruction. The introductory courses orient students to basic concepts and approaches in peace and conflict studies. The elective courses, selected from several disciplines, enable students to shape a personal program of emphasis that taps the analytic and practical resources of various academic fields. The capstone project requires students to synthesize concepts and knowledge from several disciplines in order to address a research problem of practical or theoretical interest.

For further information, contact the Peace and Conflict Studies Minor Advisor, Dr. Michael Long, Department of Religious Studies.

The requirements for the Peace and Conflict Studies minor are:

Required introductory courses:

- PCS 165 - HUM Peace, War, and Nonviolence
- REL 264 - Religion and Violence

Three approved elective courses from the following:

No more than two elective courses shall be chosen from any one department and at least two of the elective courses must be taken outside the student's major department.

- COM 251 - International Communications
- COM 252 - HUM Multi-Cultural Communications
- EC 311 - Economic Development
- EN 251 - HUM Multicultural Literature
- PS 245 - NCH International Relations
- PSY 235 - Social Psychology
- REL 261 - Peacemaking and Social Justice in the Bible
- REL 344 - The Nonviolent Ethics of Martin Luther King, Jr.
- SO 204 - SSC Population and Global Issues
- SO 301 - Social Issues
- SW 160 - SSC Social Problems and Response of Social Welfare Institutions

Capstone:

A required capstone project designed to integrate previous work and culminate in a major research paper:

- PCS 465 - Directed Research Project in Peace and Conflict Studies

Peace and Conflict Studies Courses

PCS 160 - HUM Conflict Dynamics and Transformation
4.00 credits. **(Humanities Core Course)**
Conflict, a normal part of human interaction, presents a choice to respond with violence or transformation. This course will explore the nature of human conflict and dynamics looking at the effects of violence and tools to analyze conflict in order to design appropriate interventions within international, national and local contexts. In addition, emphasis will be placed on basic skills required for non-adversarial conflict resolution through simulated facilitation and mediation role plays.

PCS 165 - HUM Peace, War, and Nonviolence
4.00 credits. **(Humanities Core Course)**
This survey introduces key concepts and issues in the study of peace and war. The course explores substantive meanings of peace and war, the reasons for war, and the attempts to build both negative and positive peace. The course grants sustained attention to the pacifist tradition and historical tactics of nonviolent resistance.

PCS 260 - HUM Peacebuilding Themes and Trends
4.00 credits. **(Humanities Core Course)**
This is a survey course that explores the basics of peacebuilding on a continuum from interpersonal to global. Peacebuilding best practice, derived from contemporary local and global case studies will provide the real world learning laboratory.

PCS 265 - HUM Nonviolence in America
4.00 credits. **(Humanities Core Course)**
This course examines the history of nonviolent thought and action in the United States, beginning with the Anabaptists and Quakers and ending with the War on Terror and the Occupy Movement. Special emphasis will be given to expressions of nonviolence in religious traditions.

PCS 465 - Directed Research Project in Peace and Conflict Studies
4.00 credits. This course is a capstone seminar designed to integrate previous course work and produce a major research project. **Prerequisite(s):* All other requirements for the Peace and Conflict Studies minor.

PCS 470-474 - Internship in Peace and Conflict Studies
Variable (1.00 to 4.00) credit(s). Students work in a nonprofit institution or research organization with PCS-based interests in return for academic hours of credit. Internships are primarily unpaid experiences, but some organizations may offer a stipend or other form of payment. One full day per week of work (8 hours) for a 15-week semester is required for every 3 credits granted (or 40 hours of internship work per 1 academic credit), and the additional course requirements (see below) will be decreased or increased as deemed appropriate by the internship advisor. Register by Instructor. This course is repeatable for credit.

Pre-Law Advising Program

The Pre-Law Advising Program is designed to provide each student, regardless of their major, with the information necessary to enable him or her to make an informed choice about the pursuit of a law degree or law-related career. This information is provided through both academic and practical experiences. The Pre-Law Director works with the pre-law student and the student's major advisor to ensure that a reasonable and sound course of study will enable the student to develop the skills necessary for law school or law-related career. The Pre-Law Director advises the student on how to best prepare for the Law School Admissions Test (LSAT) and works with the student in the preparation and submission of his or her law school application materials. In addition, the Pre-Law Director aids each student in selecting a suitable law school while taking into account considerations such as financial aid and career goals.

In order to take best advantage of the opportunities provided by the Pre-Law Advising Program, students interested in pursuing a law degree or law-related career should register for the Pre-Law Advising Program through either the Center for Student Success or the Pre-Law Director as soon as possible (preferably early in their first year).

The Pre-Law Director also advises the Pre-Law Club and works with the College's mock trial team. The Pre-Law Club sponsors on-campus speakers and off-campus field trips designed to provide useful information to pre-law students. The College's mock trial team participates in regional and national mock trial tournaments and provides students with an excellent opportunity to experience firsthand the litigation process.

For further information, Contact the Pre-Law Program Director, Dr. Kyle Kopko, Department of Politics, Philosophy, and Legal Studies.

Law Early Admission Program (LEAP) with Drexel University Earle Mack School of Law and Widener University School of Law:

Elizabethtown College maintains an articulation agreement with Drexel University Earle Mack School of Law and Widener University School of Law. Depending on a student's major and academic goals, this program may function as either a 3+3 or 4+3 B.A./B.S./J.D. program. Only high school students applying to Elizabethtown College will be admitted to the program with Drexel University and Widener University. To be admitted to LEAP, students must:

1. Apply to Elizabethtown College and satisfactorily complete a mandatory LEAP admission essay by December 15 of the student's senior year in high school.
2. Achieve a minimum SAT score of 1200 (math + critical reading, with no individual section lower than 550), or a minimum ACT score of 27. Students may not waive their SAT or ACT scores when applying to LEAP.
3. Achieve a high school GPA of 3.5 or higher (or its equivalent)
4. Graduate in the top 10% of their high school class
5. Successfully complete a mandatory on-campus interview with members of the LEAP admission committee

Once admitted to LEAP, students must maintain good standing in the program by complying with all academic and character and fitness requirements established by Elizabethtown College.

LEAP students pursuing the 3+3 course of study may only apply to one law school at a time. Applications to participating law schools as part of the 3+3 program should be considered binding, early-decision applications.

To be admitted to Earle Mack School of Law, LEAP students must:

1. Complete 96 or more undergraduate credits, including all major and core courses, before enrolling in law school courses.
2. Maintain Elizabethtown College residency for a minimum of three years (six semesters) before entering law school, and students must earn 30 of their last 60 undergraduate credits from Elizabethtown College.
3. Attain a minimum cumulative college GPA of 3.5 from Elizabethtown College, and a minimum cumulative GPA of 3.4 as calculated by the Law School Admission Council.
4. Take the Law School Admission Test (LSAT) no later than December of the student's junior year (for the 3+3 track), or December of the student's senior year (for the 4+3 track).
5. Score at least the median LSAT score for students who matriculate into Earle Mack School of Law in the class immediately preceding the student's acceptance to LEAP.
6. Meet the character and fitness requirements of Earle Mack School of Law.
7. Comply with all application, seat deposit, and other deadlines established by Earle Mack School of Law. Students pursuing the 3+3 track must apply by December 1 of their third year at Elizabethtown College, and students pursuing the 4+3 track must apply by December 1 of their fourth year at Elizabethtown College.

Students pursing the 3+3 track will receive their B.A. or B.S. upon the successful completion of all first year courses at Earle Mack School of Law.

To be admitted to Widener University School of Law, LEAP students must:

1. Complete 96 or more undergraduate credits, including all major and core courses, before enrolling in law school courses.
2. Maintain Elizabethtown College residency for a minimum of three years (six semesters) before entering law school, and students must earn 30 of their last 60 undergraduate credits from Elizabethtown College.
3. Earn a cumulative undergraduate GPA that ranks in the top 50th percentile of the class, as calculated by the Law School Admission Council's Credential Assembly Service.
4. Take the Law School Admission Test (LSAT) no later than December of the student's junior year (for the 3+3 track), or December of the student's senior year (for the 4+3 track).
5. Score at or above the 50th percentile on the LSAT.
6. Meet the character and fitness requirements of Widener University School of Law.
7. Comply with all application, seat deposit, and other deadlines established by Widener University School of Law. Students must apply no later than April 1 of the year in which they plan to attend Widener University School of Law.

Students pursuing the 3+3 track will receive their B.A. or B.S. upon the successful completion of all first year courses at Widener University School of Law.

Social Studies (B.S.)

Student Learning Outcomes for Social Studies certification:

Students will be able to:

- Plan, design, and implement research-based instructional and assessment practices appropriate for students between seventh and twelve grades.
- Develop and apply instructional methodologies, including the use of technology, appropriate for students between seventh and twelve grades.
- Demonstrate content knowledge in the disciplines of social studies - history, economics, geography, civics and government, sociology, anthropology, and psychology.
- Critically apply content knowledge and skills germane to the disciplines of social studies to facilitate student learning appropriate for students between seventh and twelve grades.
- Create, organize, and maintain an effective and safe classroom environment conducive to the learning and development of students between seventh and twelve grades.
- Design and implement successful interventions responsive to the needs of students between seventh and twelve grades.
- Exhibit the qualities that characterize a professional individual, including professional, ethical, and legal responsibilities of a certified teacher.
- Demonstrate an ongoing commitment to continued professional development and service.

Students pursuing a **Social Studies certification** acquire a mastery of the various subject fields that are part of a secondary social studies curriculum. In addition, the program provides training in the techniques of teaching, along with actual teaching experience in a social studies classroom. Upon successful completion of the program, students are certified to teach social studies in secondary schools in Pennsylvania and, by reciprocal agreement, in several other states.

For further information, contact the Social Studies Major Advisor, Dr. Rachel Finley-Bowman, Department of Education.

Requirements for Social Studies certification include:

- HI 101 - HUM United States History to 1877
- HI 102 - HUM United States History Since 1877

- HI 114 - WCH Western Civilization I or
- HI 115 - WCH Western Civilization II

- HI 208 - Technology and Values in American Experience
- PS 111 - SSC American National Government
- PS 150 - NCH Introduction to Comparative Politics
- PS 245 - NCH International Relations

- EC 101 - Principles of Macroeconomics
- AN 111 - NCH Understanding Human Cultures
- SO 101 - SSC Discovering Society
- PSY 105 - SSC General Psychology
- ED 224 - Pennsylvania History and Government for Social Studies Educators
- ED 226 - World Geography for Social Studies Educators
- Two Math courses for Education certification

One of the following elective options:

- One European History course
- One Non-European/Non-U.S. History course
- One Sociology course
- One Anthropology course

Education Courses:

- ED 105 - Foundations of Teaching and Learning
- ED 151 - Early Adolescent/Adolescent Development
- ED 161 - Integrated Technology I
- SED 222 - Foundations of Inclusive Education (MSE 522)
- ED 305 - Methods of Secondary Education
- ED 341 - ELL: Linguistic and Cultural Diversity in the Classroom
- ED 470 - Professional Internship
- ED 497 - Senior Seminar for Secondary Education
- Two English courses for Education certification, one literature and one writing (EN 100 or EN 150)

Women and Gender Studies Minor

Women and Gender Studies (WGS) uses the concepts of gender, race/ethnicity and class to analyze all dimensions of human experience. WGS is an interdisciplinary minor that complements any major and is excellent preparation for today's diverse workplace. Recent Elizabethtown graduates minoring in the program have gone on to careers in occupational therapy, banking and science or have pursued advanced degrees.

Students in WGS classes consider questions such as the following: How do women and men differ, and how do we explain the differences (nature, nurture or both)? Why was winning the vote so important for women, African Americans and Native Americans, and has everyone in the United States achieved equal rights and opportunities today? Who earns more, men or women, and why? Are Barbie, Superman, Cinderella and the Incredible Hulk good role models for small girls and boys?

Women and Gender Studies emphasizes activism as well as academics. The program sponsors an annual film series in conjunction with the student groups Allies and Womenspeak. WGS faculty and students help to organize the Women's History Month celebration each spring and have performed together in a student-directed production of "The Vagina Monologues." Many WGS classes have a service-learning component, and students have done volunteer work to benefit women and families in nearby communities.

The WGS minor requires a minimum of 20 credit hours, comprised of five courses: WGS 105, WGS 315, and three elective courses from the Humanities and Social Sciences lists. No more than two courses may be taken from the

same list. Students may double-count a research project in their major for WGS 462/WGS 464, if that project deals with gender or multicultural issues and if they obtain permission from their major department and the WGS Director. Note that several WGS courses also satisfy Core requirements, and other courses may fulfill requirements for a student's major.

For further information, contact the Women and Gender Studies Program Director, Dr. Evan Smith, Department of Psychology.

Required courses:

- WGS 105 - SSC Sex and Gender in Society
- WGS 315 - Feminist and Gender Theory

Elective courses:

Three courses – at least one and not more than two – from each category: Humanities and Social Sciences.

Humanities electives:

- COM 252 - HUM Multi-Cultural Communications
- EN 251 - HUM Multicultural Literature
- EN 317 - Studies in Narrative (Women Writers)
- REL 323 - Women, Gender, and the Hebrew Bible

- WGS 462 - Directed Research Project or
- WGS 464 - Directed Research Project

Social Science electives:

- PS 365 - Women and Politics
- PSY 237 - Psychology of Women
- SO 204 - SSC Population and Global Issues
- SO 305 - Marriage and Family
- SW 260 - International Social Development
- SW 339 - Human Sexuality
- SW 355 - Women in Society

- WGS 462 - Directed Research Project or
- WGS 464 - Directed Research Project

Women and Gender Studies Courses

WGS 105 - SSC Sex and Gender in Society
4.00 credits. **(Social Sciences Core Course)**
Serving as an introduction to the fields of gender and women's studies, this course is designed to help students understand the social construction of gender and its influence on women's and men's lives. The course addresses historical perspectives about women and gender, the structure of public and private institutions, and contemporary

issues such as discrimination and harassment, health, and violence. Feminist theory and feminist research methods as well as broader social science methods of inquiry will be addressed. Offered every semester.

WGS 315 - Feminist and Gender Theory
4.00 credits. An interdisciplinary study of theory and research methods, this course continues students' investigation of fundamental concepts (e.g., sex, gender, race/ethnicity and class). It also covers the political positions that have defined the American women's movement, such as individual rights; the appropriations and revisions of major theories by feminist thinkers (e.g. Marxism, psychoanalysis); and the grounding of theories in experiences unique to women, such as motherhood. **Prerequisite(s):* WGS 105 and junior or senior standing. Register by Instructor. Offered alternate years.

WGS 462 - Directed Research Project
2.00 credits. This required capstone course allows students to design a project integrating previous course work and their own interests in the interdisciplinary field of Women and Gender Studies. Each student produces a major research paper or equivalent project (such as an internship) and is encouraged to present the results publicly. Students take either the two-credit or four-credit version of this course. **Prerequisite(s):* WGS 105, WGS 315, and two WGS elective courses from different Departments. See the Director of Women and Gender Studies for more information. Register by Instructor. Offered every semester. This course is repeatable for credit.

WGS 464 - Directed Research Project
4.00 credits. This required capstone course allows students to design a project integrating previous course work and their own interests in the interdisciplinary field of Women and Gender Studies. Each student produces a major research paper or equivalent project (such as an internship) and is encouraged to present the results publicly. Students take either the two-credit or four-credit version of this course. **Prerequisite(s):* WGS 105, WGS 315, and two WGS elective courses from different Departments. See the Director of Women and Gender Studies for more information. Register by Instructor. Offered every semester. This course is repeatable for credit.

Academic Policies

The Academic Program

Each student enrolled in a degree program is required to complete a major. In addition, students have the option of pursuing a second major and/or one or more minors outside their major discipline. Students also complete course work to fulfill the requirements of the Core Program, which provides a broad and liberal education.

Academic Advising

Advisors are assigned for majors, second majors and minors. Non-degree students also are assigned advisors.

The First-Year Advising Program is designed to touch on all aspects of the first-year experience, assisting new students to better understand themselves and to learn to use the College's resources to meet their educational needs and aspirations.

Upperclass advisors work closely with students during the registration period for course selection for the coming semester. For those upperclass students who have declared a major, advisors in the major department also provide assistance in regard to graduate or professional school and/or career planning.

See the Student Life section of this Catalog for more information about the First-Year Advising Program and upperclass student advising.

Student Responsibilities

Students are required to consult with their major advisor as to course selection, course sequences, graduation requirements, etc. Consultation with the second major or minor advisor is an expectation, but not a requirement. **It is the student's responsibility to ensure that all graduation requirements have been met and that other requirements, regulations and deadlines have been observed.**

Advising Sheets and Degree Audits

Advising sheets for academic majors and minors list the requirements for each program and can be used by students to track their progress.

In addition, electronic degree audits are available 24/7 to students and their academic advisors through the College Web system. The degree audit matches the student's course work against the requirements for a degree and notes which requirements are met and which still are required. The degree audit is not the same as the transcript. The degree audit is an advising tool and as such, is an unofficial document, whereas the transcript is the official record of course history and degree completion. Students are encouraged to review their degree audits and transcripts at the start/end of every semester. While the degree audit is usually accurate, at times the complicated nature of a program or the unique circumstances of a student's course completions may lead to inaccuracies. If there are inaccuracies, students are responsible for reporting these to the Office of Registration and Records. An error in the degree audit does not change the actual requirements for graduation; in particular, unfulfilled requirements are not waived because of degree audit errors. **The responsibility for understanding and meeting degree requirements rests with the student.**

Declaration and Change of Major/Minor

Declarations and changes of majors and minors are initiated by the student and facilitated by Academic Advising in the Center for Student Success. When a change of major or minor occurs, a student's advising record is transferred from one Academic Department to another.

Change of Personal Information

Any change of name, address, telephone number or marital status must be reported to the Office of Registration and Records immediately either as a request through the College Web system or in written form. E-mailed and telephoned changes cannot be accepted. This information must be kept current so that there will be no delay in receipt of information from the College. Changes of name, gender, social security number, etc., require legal documentation.

Academic Load and Progress

Since the completion of at least 125 credits is required for a bachelor's degree, a student who plans to graduate in four years must satisfactorily complete an average of 16 credits in each of eight semesters. However, some students wisely elect to take a lighter academic load in order to do better work and choose to complete one or more summer courses or attend a partial fifth year. Some programs require a highly sequenced set of courses and any deviations from the sequence may delay program completion. Students should review the requirements for any intended major or minor programs to ensure full understanding of program expectations.

Credit

A semester credit hour represents a unit of curricular material that normally can be taught in a minimum of 14 hours of classroom instruction plus appropriate outside preparation or the equivalent as determined by the faculty. Each of the following four requirements must be met for any equivalent learning experience activity:

1. Be directly related to the objectives of the course/program,

2. Be measurable for grading purposes,

3. Have the direct oversight or supervision of the faculty member teaching the course, and

4. In some form be the equivalent of an activity conducted in the classroom.

Full-time/Part-time Status

An undergraduate student taking 12 or more credits per semester at Elizabethtown College is considered a full-time student and pays full tuition and fees.

An undergraduate student taking fewer than 12 credits per semester is considered part time. Part-time students pay the regular semester credit rate plus applicable fees and receive a library card and full use of the library facilities.

National Collegiate Athletic Association (NCAA) regulations stipulate that a student must carry a minimum of 12 credits per semester to be eligible for intercollegiate athletic competition.

Overload Credits

Undergraduate students may carry up to 18 credits in a semester or 12 credits in a combination of course work during May term and the online summer term. A student who achieves a cumulative grade point average of 3.20 or above, or who has the approval of the Associate Academic Dean or a Registrar, may carry up to 20 credits in a semester. An additional tuition fee is charged for credits in excess of 18 credits in a semester. A petition form for overload credit is available in the Office of Registration and Records or on the office's website.

Class Standing

The student's class standing is determined on the basis of the number of credits earned. After earning 30 credits, a student is considered a sophomore; with 60 credits, a junior; with 90 credits, a senior.

Transfer of Credits

Students can transfer courses from accredited institutions that are judged by the Registrar and the appropriate Department (in the case of courses for a major/minor) to be high quality, involve active delivery methods (ongoing exchange of ideas with an instructor) and are consistent with the mission and program goals of Elizabethtown College. No online courses that are independent study or correspondence can be transferred. In order for incoming students to be awarded credit for a course taken during high school (whether taken as "dual-enrollment" credits or as unique credits during high school), the course must have been taken at the credit-granting institution and meet the other criteria for transfer of courses.

A current student who wishes to transfer credits to Elizabethtown College must obtain permission in advance from the Office of Registration and Records. The College transfers credits – but not grades or quality points – for course work taken at another regionally accredited institution for which a grade of C- or better is obtained. The College does not accept courses taken Pass/No Pass (or Satisfactory/Unsatisfactory) at other institutions. The College is not obligated to accept course work for which written permission was not obtained prior to enrollment in the course.

Students who have achieved junior status (60 credits) either through work at Elizabethtown College or a combination of work at the College and another institution are not permitted to transfer additional credits from two-year institutions to Elizabethtown College. Such students may transfer credits from four-year institutions, but only with the prior approval of a Registrar. Students must request that the registrar's office of the transferring institution send an official transcript to the Office of Registration and Records at Elizabethtown College. Facsimiled and student-delivered transcripts will not be accepted.

The records of transfer students from non-accredited and National/American Association Institutions are evaluated on an individual basis.

For more information regarding transcripts and course transfer, contact the Office of Registration and Records at (717) 361-1409 or visit the office's website.

Transcripts

Transcript requests must be sent to the Office of Registration and Records and should be received at least one week prior to the date needed. Federal law requires that all requests be made in writing by the student. Telephone requests and e-mail requests cannot be honored. Transcripts also cannot be requested by parents, friends, spouses or potential employers.

No transcripts of record are furnished to students whose account is not paid in full. There is no charge for transcripts.

Transcript request forms are available in the Office of Registration and Records or by printing a copy from the office's website. Letters are accepted instead of the form. The following information must be included in all requests: 1) name(s) and address(es) to whom the transcript should be sent, include specific names/ offices when possible; 2) dates of Elizabethtown College attendance; 3) student's full name, including maiden name if applicable; and 4) student's signature.

Students may print unofficial transcripts via the College web system. Unofficial transcripts might not be acceptable to other institutions or potential employers. Elizabethtown College does not send or accept facsimile copies of transcripts.

Registration

Students register for classes on those days designated on the College calendar. No registrations are accepted after the first week of a semester. Students register for the fall semester in April. Spring semester registration takes place in November. A student may register either as a degree or a non-degree student and as a full-time or part-time student. Regular students are degree candidates, and they must be in an approved major.

Many courses have prerequisites, and students are reminded of their responsibility for meeting all prerequisites and for taking courses in proper sequence.

To register for the next semester, a student must have met all financial obligations. Students who do not register during the registration period cannot be guaranteed space in the residence facilities or classes. Students must meet with their advisor prior to registration, and the advisor must remove the "advising hold" before students can register online through the College Web system.

Students are advised to review all Registration materials at the Registration and Records website - www.etown.edu/offices/registration-records.

Registration Holds

A student's registration may be delayed as a result of unpaid account balances, incomplete academic records, disciplinary sanctions, failure to meet with the advisor, failure to provide current off-campus address information, or incomplete health records. For full-time students, the Student Health Record must include a recent physical and evidence that all required immunizations are complete.

Schedule Changes

Students who have registered may make changes to their schedule via the College Web system on a space-available basis up until the fifth class day of the semester.

Adding Courses

Students may add courses to their schedule up until 4:30 p.m. on the fifth class day of the fall or spring semester via the College Web system.

Dropping Courses

Courses dropped from a student's schedule during the first four weeks of a semester do not appear on the student's academic record. Drop request forms are available in the Office of Registration and Records. The completed form must be signed by the academic advisor and returned to the Office of Registration and Records. A student is not dropped or withdrawn from a class simply by discontinuing attendance or by notifying the professor. **The completion of any registration change is the responsibility of the student, not the faculty member**. Seniors should keep in mind that dropping or withdrawing from a course could jeopardize their graduation clearance.

Withdrawal from Classes

Students withdraw from classes through the Office of Registration and Records. The course will not appear on the permanent record if the student withdraws (i.e., drops) on or before the end of the fourth week of the semester. From this time to the end of the 11th week, a withdrawal appears on the permanent record with a grade of W. **All withdrawals after the end of the 11th week of the semester receive a grade of WF** unless the withdrawal is from College and is for medical reasons, in which case a W is recorded for each course. A student may not withdraw from individual courses for medical reasons. **A grade of WF is calculated into the student's average as though it were an F.**

Repeating Courses

A few courses are repeatable for credit if so designated in the Catalog and provided that the content is not duplicated. Other courses may be eligible to be repeated in an attempt to improve the grade. Courses that are eligible to be repeated must be taken at Elizabethtown College and not at another institution as a transfer course. A course must be repeated in the same manner in which it was originally enrolled (i.e., a course normally cannot be repeated as a Directed Study unless it was originally registered as a Directed Study).

Students may repeat any course in which they earned an F or NP and may attempt failed courses as many times as needed until the course is passed. Under certain conditions, students may be able to repeat a course in which they earned a C- or a grade in the D range. To do so, the following conditions must be met:

> The course to be repeated must be in their major/minor or be a course that is a prerequisite to a Core Program requirement.
>
> The student must have the approval of their advisor and the major/minor Department Chair.
>
> The student must file a repeat registration form in the Office of Registration and Records.

Under federal financial aid (Title IV) guidelines, a previously passed course that meets these conditions may be repeated only one time. This includes courses in which a program requires a minimum grade in the course (i.e., students who have previously passed a course have one opportunity to repeat the course for a better grade). When repeating a course to earn a different grade, the original grade remains on the transcript but is removed from calculation of the grade point average, course credits are counted only once toward degree and program requirements, and only the last (i.e., most recent) grade earned for the course is counted in the grade point average.

Auditing Courses

Students in good academic standing (2.00 or better) may elect to audit courses provided they do not preempt regularly enrolled students and they have the permission of the professor teaching the course.

The requirements for the audit are determined by the professor. Upon completion of all such requirements, the audit is posted on the student's permanent record card. Audit courses carry neither academic credit nor grade.

Audit credits are included in the total credits to determine full-time status and overload charges. A fee is charged on a per-credit basis for part-time students who wish to audit courses. Auditors – both full-time and part-time – also must pay any additional fees for labs, studio supplies and other direct costs. Students may add a course for audit or change a course registration from audit to credit during the first week of class only. Change of course registration from credit to audit cannot be made after completion of the fourth week of the semester. Once a course has been audited, it may not be taken for credit. Likewise, a course that has been completed for credit may not be repeated and recorded as an audit course.

Class Absences

Class Attendance

Class attendance policy is determined individually by faculty members. It is the position of the College that the above-average student should be given some freedom of judgment as to attendance needs, while the average student must, of necessity, be encouraged or required to maintain a record of regular attendance.

Each faculty member announces his or her attendance policy at the start of each semester. **A professor or the College may dismiss a student from a course for excessive absences.** Such a dismissal in the first through fourth weeks of the semester results in removal of the course from the student's record; **after the fourth week, a grade of WF is recorded for the course**. A student may appeal to the Academic Standing Committee for reinstatement to the course.

Students are responsible for knowing the attendance policy for each course and consulting with professors in the case of absences due to illness or other personal problems.

Long-Term Absences

A long-term absence from classes or from campus may result in mandatory withdrawal from the College. After 15 consecutive class days of absence from all classes, a student is considered to have withdrawn from the College. Students absent for verified medical reasons will be granted a Medical Withdrawal.

Withdrawal Policy

Withdrawal from College

Students who withdraw from the College during a semester also withdraw from all of their classes for that semester. Full-time students withdraw from the College through the Center for Student Success; part-time students withdraw through the Office of Registration and Records. Students who withdraw during the semester are expected to leave the campus as of the effective date of their withdrawal.

For purposes of billing, room reservation, academic responsibility, etc., the effective date of withdrawal is the date on which the completed official notice is returned to the Center for Student Success or the Office of Registration and Records. A student who withdraws without notification receives no refunds and may incur the full room penalty. Failure to comply with the withdrawal procedures may result in loss of the privilege of readmission to the College and the right to the release of a transcript of credits earned. Additional information on the Institutional Refund Policy as it relates to withdrawals is contained in the Tuition and Financial Aid section of this Catalog.

Medical Withdrawal

A student may withdraw from the College for reason of a serious illness or similar, medically related circumstances. Medical withdrawal assumes an incapacity that prohibits acceptable academic performance, not simply a hardship or inconvenience. Such withdrawal requires written verification from a physician, including diagnosis and dates of treatment. Upon receipt of verification, a proportionate refund is granted. Students granted a medical withdrawal must have approval from the Director of Student Wellness before returning to the College.

Medical withdrawal is withdrawal from the College and therefore from all courses. A student does not selectively withdraw from individual courses under the rubric of medical withdrawal.

For more information, please visit www.etown.edu/offices/wellness.

Leave of Absence

Students in good academic standing may take a leave of absence from the College for a period of time not to extend beyond the academic year in which the leave is taken. Leaves of absence can be requested for personal reasons (e.g., to address a family issue) or for academic reasons (e.g., to study in an approved off-campus program). For most off-campus programs, students must work through the Office of International Programs. Application for off-campus programs must be made through the Office of International Programs no later than the registration period of the semester prior to the one in which the leave begins. Administrative fees for off-campus programs are payable at the time a student applies for the leave. A leave is approved upon the student's acceptance into the program. All other leaves of absence (i.e., those not involving an approved off-campus program) must be approved by the Director of the Center for Student Success. In order to return to the College following a leave of absence, students must submit a readmit request to the Office of Registration and Records or, in the case of a leave of absence for medical reasons, the Center for Student Success and the Dean of Students.

Readmission

Students who leave the College in good academic standing (minimum 2.00 cumulative grade point average) gain readmission by written request to the Office of Registration and Records. Students who leave the College in academic difficulty (below 2.00 cumulative grade point average) must petition the Academic Standing Committee for readmission. A student who is readmitted to the College after an absence of five successive years may petition to have previous grades of F removed from his/her cumulative grade point average. In order to be eligible to petition for this, students must have completed 16 consecutive credits at Elizabethtown and earned a grade of C or better in each class. If the petition is approved, the old F grades remain on the transcript but are removed from the student's overall grade point average. For further information, students should consult with the Office of Registration and Records.

For more information, please visit www.etown.edu/offices/registration-records/readmit.

Grades and Quality Points

Grades are reported as A, B, C, D and F. Plus and minus distinctions are made. Designations of I, W, WF, P, NP and AUD are used in appropriate situations.

Grade definitions are:

A	Distinguished
B	Above Average
C	Average
D	Poor
F	Failure
I	Work Incomplete
W	Withdrawal from Course
WF	Withdrawal Failing from Course
P	Pass
NP	No Pass (Failure)
AUD	Audit

Grades submitted to the Office of Registration and Records are considered official at the time submitted. Official grades can be changed only by successful appeal under the College's Grade Appeal Policy or by an instructor's petition to the Dean of Faculty to correct a documented grading error.

Grade appeals and evidence of grading errors must be submitted within 30 days of the date on which the grade was formally issued from the Office of Registration and Records. Exceptions to the 30-day time limit require formal petition to and approval by the Academic Standing Committee.

Incomplete Grades

A grade of Incomplete (I) may be obtained by making a formal request to the professor of the course in question. The student and the professor must sign a written agreement that specifies the nature and the quantity of work to be completed and the projected date of completion. A grade of Incomplete is assigned for extenuating circumstances only. It is not simply given to allow additional time to complete required course work or to improve a course grade. In addition, a professor may use a grade of Incomplete in cases of suspected academic dishonesty.

All incomplete grades received in the fall semester must be removed by April 1. Those received in the spring semester or summer session must be removed by October 1. Failure to do so results in a grade of F.

Quality Points

A 4.00 quality point system is used. Quality points are assigned as follows:

Letter Grade	Quality Points per Semester Hour of Credit
A	4.00
A–	3.70

B+	3.30
B	3.00
B–	2.70
C+	2.30
C	2.00
C–	1.70
D+	1.30
D	1.00
D–	0.70
F, WF	0.00

Grade Point Average Calculation

The grade point average is dependent upon the credits attempted and the quality points earned. To determine the quality points earned for a semester, multiply the credits for each course by the quality points for the grade earned in the course, sum the results, and divide by the total credits attempted in the semester. Courses in which a grade F or WF is received are included in the calculation. Courses in which a grade of W or I is recorded are excluded, as are Pass/No Pass and Audit courses.

The cumulative grade point average and the grade point average in majors and minors are calculated in the same manner as the semester grade point average. All courses that could fulfill a requirement for the majors or minors – whether in excess or not – are used for the grade point average calculation.

Pass/No Pass Grading

The Pass/No Pass grading option is intended to encourage students to explore areas of study beyond those of their major or minor. Courses registered on Pass/No Pass basis earn credits (for grades of P) but are not included in the calculation of the grade point average. Students may select one course per semester to be graded in this manner under these conditions:

A student currently must have junior or senior standing (60 or more credits).

The student must have a cumulative average of 2.75 or higher.

The selected course may carry no more than four credits and must be a free elective. It may not satisfy a Core Program requirement **(no Core courses can be taken Pass/No Pass)** and may not be a course that could fulfill a requirement for the student's major or minor. However, if major/minor requirements are already met (i.e., completed, not in progress), then an additional course in the major/minor Department can be taken Pass/No Pass.

No more than four courses in total (excluding Physical Education activity courses) may be taken under this grading option.

All students may elect to take Physical Education courses Pass/No Pass. Pass/No Pass registration opens at the end of the second week of classes and must be completed by the end of the fourth week of the semester. Forms are available on JayWeb and in the Office of Registration and Records. Once a course is registered under the Pass/No Pass option, it may not be changed. Grades of D- or higher are recorded Pass; grades of F are recorded No Pass. Students should be aware that courses taken Pass/No Pass may not be transferrable to other institutions.

Early Warning System

Mid-term grade reports are not issued. However, an early warning system is used. Students carrying D or F grades in 100- or 200-level courses at the end of the fifth week of the semester are notified of their deficient performance. These students are encouraged to consult with their instructors and to make use of Learning Services' resources in order to improve their performance.

Final Examination Policy

All academic courses are expected to conclude with a final examination administered during the assigned time of the examination period. Within the last three meeting days for classes (not for any individual course) prior to final examinations, no unit tests or quizzes of any type may be administered. Due to the structure of courses involving laboratory examinations/practica, a laboratory examination/practicum can be given during these final three days prior to final examinations. In addition, major papers and projects can be assigned due dates that fall within the last three meeting days for classes, providing the due dates are specified in the syllabus.

Depending upon the judgment of the instructor, the following may or may not have a final examination: a laboratory section; an advanced seminar, in which an assigned paper or project is the major activity; a performance class, in which a recital or similar artistic performance is required; an internship or a practicum. Any faculty member seeking an exception to the final examination rule for an academic course shall first secure the approval of the Department Chair and then the approval of the Associate Academic Dean.

Students as well as faculty members are expected to abide by the published examination schedule. However, students with three examinations in one day may request of a professor that one examination be rescheduled during the examination period. There is no obligation on the part of the faculty member to reschedule the examination. All requests for rescheduling an examination must be made at least five class days before the start of the final examination period. Students with four examinations in one day may request that one or two of the examinations be rescheduled, following the same procedure. When a scheduling conflict cannot be resolved between the faculty member(s) and the student, the student may appeal to the Associate Academic Dean.

Academic Standing

Students in academic good standing maintain a minimum 2.00 cumulative grade point average.

Academic Probation

Academic probation means that a student is in danger of being dismissed from the College for academic reasons. Students who fall into the following categories are placed on academic probation and also may be required to sign an academic contract:

Semester Hours Attempted with	Cumulative Grade Point Average Below:
1 - 18	1.70
19 - 34	1.90
35 or more	2.00

Students on academic probation or contract normally should limit their academic load to three courses – or a maximum of 13 or 14 credits – in any semester in which the probation exists. The summer maximum should be two courses or eight credits.

Academic Dismissal

At any time, the College – upon recommendation of the Academic Standing Committee – may dismiss a student who is experiencing academic difficulty and/or lack of progress toward degree completion. A student should be aware that all cases are decided individually and that poor academic performance may result in dismissal at the end of any semester, whether or not a student was previously on an academic contract. Further, violations of the conditions of an academic contract may result in dismissal at any time of the semester.

A student who is in academic difficulty (below 2.00 cumulative grade point average) may be requested by the Academic Standing Committee – in consultation with the student – to enroll in a special or particular set of courses and to become involved in testing, counseling or other developmental activities. A student's satisfactory performance in such assignments may be interpreted by the Academic Standing Committee as satisfactory progress and may make it unnecessary to recommend dismissal.

Individual Program Adjustments

Academic Departments reserve the right to counsel any student out of a major or minor for academically related reasons. A student has the right to appeal such Department action to the Provost, who will direct warranted appeals to the Academic Standing Committee.

Academic Honors

Dean's List

A full-time undergraduate student who earns a semester grade point average of 3.60 or better in 14 or more credit hours, of which at least 12 credits are letter-graded course work, is regarded by the College as having performed with distinction. The student is placed on the Dean's List of Honor Students for the semester.

Emergent Scholars Program

Awarded to those undergraduate students who demonstrate strong academic achievement at the end of three semesters of full-time study at Elizabethtown College. Such early academic achievement is indicative of habits of mind that embody the Elizabethtown Educational Philosophy and Learning Goals. Recognition at this point in a student's college career seeks to encourage deeper academic engagement on the path to achieving the promise of a transformative Elizabethtown College education.

Qualifying students are full-time students who have not previously attended another college or university for full-time study and have earned at least 42 credits in three consecutive semesters of study at Elizabethtown College or one of its affiliated programs (or, by petition, a non-affiliated program). Students must have attained at least a 3.75 cumulative grade point average at the end of their first three semesters. Students will be identified after their third semesters at Elizabethtown and recognized in a ceremony.

Graduation with Honors

At the time of graduation, an undergraduate student who has achieved a cumulative grade point average of 3.60 is graduated *cum laude*; of 3.75, *magna cum laude*; of 3.90, *summa cum laude*.

A transfer student is eligible for and receives these same honors if the student earns a minimum of 60 credits at Elizabethtown College and is recommended for honors by the major Department.

Honors in the Discipline

Honors in the Discipline is awarded at graduation to outstanding undergraduates majoring in the various disciplines. To receive this designation, the student must prepare a research or creative project, and the completed project must be judged outstanding by the faculty of the Department. An invitation from the major Department and a grade point average of at least 3.50 in the major are required for a student to begin an honors project.

Honors in the Discipline is noted in the graduation program and on the academic transcript. A student may receive recognition in more than one discipline. Departments may recognize more than one graduate in a year. Each Department determines the specific criteria used to judge its students' projects.

Scholar's Privilege

With the permission of the instructor, a full-time undergraduate student who appeared on the Dean's List of Honor Students for the preceding semester may attend any class at the College on a space-available basis as a scholar's privilege without registration or credit.

Departmental Student Privilege

With the permission of the instructor, a full-time or part-time junior or senior student may attend any class within the student's major or minor Department on a space-available basis without registration or credit.

Credit by Examination

There are three ways for regularly admitted students to receive academic credits and/or advanced placement by examination: 1) College Board's Advanced Placement Program (AP); 2) College-Level Examination Program (CLEP); and 3) successful achievement on an Elizabethtown College departmental examination (Challenge Testing).

College Board's Advanced Placement Examinations

With the approval of the Department concerned, the College grants advanced placement and credit to students who perform satisfactorily on a College Board AP Examination. A complete list of how AP exams transfer to Elizabethtown is available on the Office of Registration and Records' website in the transfer credit section.

CLEP Examinations

Students who have completed high school (or its equivalent) prior to taking the CLEP Examinations may be awarded Elizabethtown College credits, following recommendations of the American Council on Education (ACE) in place when the exam was taken **and with approval of the Registrar and the appropriate Academic Department**. All CLEP Examinations must be completed prior to achievement of sophomore status (30 or more recorded College credits). Up to 29 credits may be awarded for CLEP exams and none of the credits may duplicate College credits completed or enrolled in at the time of the examination. In order to fulfill Elizabethtown's Power of Language Core requirement, the CLEP English Composition exam must be taken with the essay.

Challenge Testing

Challenge Testing is a comprehensive term encompassing all tests prepared and/or administrated by Elizabethtown College faculty. The types of Challenge Tests are Tests for Academic Credit and Tests for Placement and/or Waiver.

Tests for Academic Credit are Challenge Examinations requested by a regularly admitted Elizabethtown College student in hopes of receiving credit for a particular course in the College Catalog. Requests for Challenge Examinations must be approved by the Chair of the Department in which the course is listed. Practicums, internships, research courses, and First-Year Seminar in the Core Program are excluded from Challenge Examinations.

Tests for Placement and/or Waiver are given for placement in a course sequence such as modern languages and mathematics. Credit is not awarded.

All Challenge Testing is graded on a Pass/No Pass basis. A grade of Pass indicates that the credit and/or advanced placement is to be awarded.

Challenge Tests given at the initiative of the College are administered without fee to the student. There is a per-test fee for Challenge Tests given at the request of the student. The fee is for the test itself and is charged regardless of the test results. In addition, 50 percent of the appropriate part-time tuition rate in effect at the time the test is administered is charged for academic credit awarded as a result of performance on Challenge Tests.

Placement Testing

Entering students are placed in mathematics, English writing, and modern language classes on the basis of criteria established by the relevant Academic Departments.

Mathematics placement is determined using: 1) high school mathematics courses taken and performance in those courses; 2) SAT mathematics score; 3) the student's intended major; and 4) student self-evaluation. Students who need additional preparation before taking a college-level math course are placed in MA 011. Students with a placement of MA 011 are required to complete this course prior to enrolling in a Mathematics Core course. MA 011 does not satisfy the Mathematics Area of Understanding and does not count toward graduation credits. Students may challenge their placement level by taking a mathematics placement Challenge Exam during the fall orientation program.

Placement in English writing courses is determined according to a combination of SAT critical reading and writing scores as well as performance in high school English courses. Most students are placed in EN 100, Writing and Language. Some students are placed in EN 150, Advanced Writing and Language, or PH 110, Logic and Critical Thinking. All satisfy the Power of Language – English requirement in the Core Program.

Students are placed into modern languages based on language background and placement test results. Students who have studied a modern language in high school for two years or more must take the appropriate modern language placement test. If students have studied more than one modern language, they take the placement test in the language that they wish to study further at the college level. Students who have studied a language for less than two full years or not at all do not take the placement test and are normally placed at the 111 or beginning level of a language.

Students who wish to use a modern language to fulfill the Power of Language – Other Area of Understanding in the Core Program normally complete a modern language course at the 111, 112, 211 or 212 level. Students, who demonstrate competence at the 111 level, enroll in 112. Students who demonstrate competence at the 112 level, enroll in 211. If competence is demonstrated at the 211 level, the appropriate course is 212. If competence is demonstrated at the 212 level, then any 300-level course in that language can be used to satisfy the Power of Language – Other requirement, or students can pursue a different language.

Graduation

The Ceremony

Graduation from Elizabethtown College is celebrated once each year in May. The ceremony is typically held on the morning of the second or third Saturday in May, outdoors in The Dell, except in cases of severely inclement weather when the ceremony is held in Thompson Gymnasium. Students who complete all graduation requirements in the previous summer or fall or in the current spring semester are recognized at this ceremony. Undergraduate students majoring in Music Therapy and graduate students in Occupational Therapy who have completed all course work participate in the May graduation ceremony, but do not receive their diplomas until their respective clinical experiences are completed.

Senior students who are not actually graduating may petition to indicate their desire to participate in Commencement and for verification of their status as a "member of the class." To be eligible for early participant ("EP") status, students must have a 2.00 grade point average in both the major and overall at the time of the ceremony and have no more than eight credit hours of course work remaining, regardless of total number of credits completed. In addition, students are not eligible for Latin honors until all coursework has been completed. Students in an education program who have not yet completed their student teaching are not eligible for EP status. Students approved as "early participants" take part in Commencement with their class, have their name listed in the official program, and are called to the platform for recognition as members of the graduating class. They are not graduates and do not receive a diploma until they have successfully completed all requirements. Early participation applications are due to the Office of Registration and Records by February 1st and must include what, when, and where the remaining requirements will be completed. Following approval, students have two years from when they participate in commencement to complete the requirements and earn their degree and cannot change their major(s) declaration during this time from what was approved for EP status. Students not completing their degree during this grace period or as specified on the EP application will need to follow the Catalog requirements in effect during the year they complete their degree (see "Other Requirements").

Honors are listed in the Commencement program only for those students who actually have graduated and those whose only remaining requirement is a non-credit clinical experience.

Credit Requirements

To receive a Bachelor of Arts, Bachelor of Science, or Bachelor of Music degree from Elizabethtown College, the student must earn a minimum of 125 credits. (MA 011 is not counted toward these credits.) Some programs may

require more than this minimum to complete all program requirements. (See the program requirements for specific information.)

No more than one bachelor's degree is ever awarded to an individual by Elizabethtown College; however, students may complete a second major, a minor or teacher certification subsequent to graduation.

Program Requirements

Students are required to successfully complete all requirements of the major and the Core Program. The College does not guarantee graduation to any student who is unable to complete requirements of a specific program or academic major.

In addition to their major, students have the option of pursuing a second major and/or one or more minors. Second majors must include at least 16 credits not included in the first major. For each minor, the student must complete at least eight credits that are not used to fulfill the requirements of the major(s) or another minor.

Second majors and minors represent additional knowledge and interest in areas outside the first major. Therefore, second majors and minors must be selected in disciplines outside the first major, and additional minors must be selected in disciplines outside the first minor. Major and minor disciplines are determined by the predominant course prefix of the major/minor course requirements. For secondary education majors, the major subject area is considered to be the discipline of the major.

Grade Point Average

To be eligible for graduation, a student must have a cumulative grade point average of at least 2.00, with a minimum average of 2.00 in a major (and a 2.00 in a minor, if the minor is to be recorded on the student's transcript). A student who transferred from another college to Elizabethtown College must have an average of at least 2.00 in courses pursued in residence at Elizabethtown.The Office of Registration and Records has adopted a policy to not allow a student's name to be included in the pre-graduation lists if their major grade point average or overall grade point average is not above the required 2.0 at the start of their final semester.

Residency Requirement

To meet graduation requirements, the student must earn on-campus credits as follows: l) a minimum of 16 credits in the major, at least eight of which are at the upper level (normally 300 and 400 level) and 2) at least 30 of the last 60 credits. To recognize completion of a minor on the transcript, a student must have completed at least eight credits of the requirements on the Elizabethtown College campus and must have earned a bachelor's degree at Elizabethtown College.

Note: While a student is matriculated at Elizabethtown College, credits earned through the Dixon University Center in Harrisburg; the Lancaster or York campuses; the BCA Study Abroad program or another study-abroad program formally affiliated with Elizabethtown are considered on-campus credits for residency purposes.

Other Requirements

Graduation requirements are governed by the College Catalog dated four years prior to graduation or, for major or minor requirements, by the College Catalog in effect at the time of graduation, if the student so chooses. For most students, this means they will follow the requirements of the Catalog in effect when they begin their studies at Elizabethtown College. Students who choose to change Catalog years for their major or minor to the one in effect at

the time of graduation must inform their academic advisor and the Office of Registration and Records by the end of the fall semester of their senior year. Students may **not** use a **combination** of College Catalogs to complete a major or minor. Transfer students are subject to the requirements of the College Catalog in effect when they begin studies at Elizabethtown College or, for major requirements, the one in effect at the time of graduation.

Students may not normally use a College Catalog dated more than four years prior to graduation to determine requirements for a degree. The only exception to this is for students who have been continuously enrolled for more than four years.

Elizabethtown College will graduate only those students who meet the moral and financial obligations incurred in pursuit of their studies. The completion of the required number of credits does not in itself constitute eligibility for graduation. It is the responsibility of the candidate for a degree to make formal written application for the degree to the Office of Registration and Records by the stated deadline. Only students in good academic standing may apply for candidacy for degree conferral.

The Office of the President must be notified by any student who plans to graduate *in absentia*.

Graduate Program

Many components of the graduate program at Elizabethtown College are facilitated the same way as the undergraduate program. Course registration, graduation clearance and credit transfer are processed by the Office of Registration and Records in the same manner as they are for the undergraduate program.

The following policies apply only to graduate students: 1) The minimum number of credits required to be full-time is nine. Students may not take more than 16 credits without following the Petition for Overload procedure and being assessed and charged per overload credit; 2) All but three courses must be taken on-campus; 3) The maximum number of courses allowed for transfer is three; 4) Pass/No Pass does not apply unless the course is offered Pass/No Pass; 5) Latin honors and the Dean's List do not apply; and 6) Only courses graded F may be repeated.

The minimum overall grade point average needed to stay in the program is 3.00. Not meeting the minimum overall grade point average may result in suspension from the College. To be readmitted, the student must petition the Academic Standing Committee.

It is up to the discretion of the student's major Department to determine if undergraduate and graduate courses may be taken concurrently. Graduate courses may count toward undergraduate programs; however, undergraduate courses may not count toward graduate programs. Undergraduate program courses taken by graduate students to complete credit deficiencies are free elective credits only and do not fulfill any major requirements. Graduate courses may not be met via Challenge Tests.

Academic Judicial System

Responsibility for judicial matters of an academic nature is assumed by the Academic Standing Committee and the Academic Review Committee. The Academic Standing Committee handles matters pertaining to academic probation, academic dismissal, readmission and deviations from the academic curriculum of the College. The Academic Review Committee handles matters pertaining to academic dishonesty and student appeals of course grades.

Academic Due Process

At Elizabethtown College, academic due process is understood to include the following student rights:

With Regard to Grading:

To receive a specific explanation of the manner in which a course grade was determined.

To appeal a course grade if the student believes that a grade was influenced by matters other than academic performance, class attendance and punctuality in submitting assignments.

With Regard to Academic Dishonesty:

When penalized for academic dishonesty, to receive a written notification specifying the nature of the infraction and the recommended penalty.

To request a hearing before the Academic Review Committee when found by a faculty member to be in violation of the standards of academic integrity and to receive a written statement from that board summarizing the findings of the board and its disposition of the matter.

To request a hearing before the Academic Standing Committee when recommended for academic dismissal due to cheating, plagiarism or other violations of the standards of academic integrity.

To inspect any information on file in the Office of the Provost (or its proxy) dealing with incidents of academic dishonesty attributed to that student.

Standards of Academic Integrity

Elizabethtown College assumes that students will act honorably. Students are expected to adhere to the Pledge of Integrity adopted by both the students and the faculty in 1995:

Elizabethtown College is a community engaged in a living and learning experience, the foundation of which is mutual trust and respect. Therefore, we will strive to behave toward one another with civility and with respect for the rights of others, and we promise to represent as our work only that which is indeed our own, refraining from all forms of lying, plagiarizing and cheating.

Reflecting commitment to the pledge, new students are expected to sign a pledge stating, "I pledge to be honest and to uphold integrity."

Academic dishonesty – including cheating and plagiarism – constitutes a serious breach of academic integrity. Academic work is expected unequivocally to be the honest product of the student's own endeavor.

Cheating is defined as the giving or receiving of unauthorized information as part of an examination or other academic exercise. What constitutes "unauthorized information" may vary depending upon the type of examination or exercise involved, and the student must be careful to understand in advance what a particular instructor considers to be "unauthorized information." Faculty members are encouraged to make this definition clear to their students.

Plagiarism is defined as taking and using the writings or ideas of another without acknowledging the source. Plagiarism occurs most frequently in the preparation of a paper, but is found in other types of course assignments as well.

Other forms of academic dishonesty include (but are not limited to) fabrication, falsification or invention of information when such information is not appropriate. To knowingly help or attempt to help another student to commit an act of academic dishonesty is considered to be an equivalent breach of academic integrity and is treated as such.

Cases of academic dishonesty are reviewed individually and according to the circumstances of the violation; however, students who violate the standards of academic integrity can normally expect a grade of F in the course and/or possible dismissal from the College.

Procedures for Dealing with Cases of Academic Dishonesty

Instances Involving Course Work. The following steps are to be followed when dealing with instances of academic dishonesty involving course work:

Initial Conference. When an instructor discovers evidence of academic dishonesty, an informal conference is scheduled promptly with the student or students involved. If a face-to-face meeting is not possible, this conference can take place via e-mail. If an instructor is unable to schedule a conference before grades are due, a grade of Incomplete for the course may be assigned in the interim. If the student confirms his or her academic dishonesty in the initial conference, then the procedure continues with the written notification step that follows.

Second Conference. If, in the informal conference, the student denies academic dishonesty but the instructor is satisfied that there is evidence of academic dishonesty, a second conference is scheduled with the student involved. In cases involving more than one student, either individual or group conferences may be appropriate depending on the particular circumstances of the case. This conference should include another faculty member selected by the instructor. The student also has the right to have a faculty member, another student, or a member of the Center for Student Success present as an observer. Due to the nature of this second conference, it should be scheduled as a face-to-face meeting.

Written Notification. If, following either the first or second conference, the initiating faculty member is satisfied that there is proof of academic dishonesty, the faculty member will – with the approval of the Department Chair or equivalent – give the accused student(s) written notification specifying the infraction and the recommended penalty. A copy of this notification is sent to the Associate Academic Dean. Should the Department Chair not be in agreement with the faculty member and the matter not be resolved at the Department level, both the faculty member and the Department Chair will give written notification with rationale to the Associate Academic Dean. The Associate Academic Dean will review the matter and recommend action and will inform the student in writing of the recommended action.

Reported Cases. Cases of alleged academic dishonesty reported by a student or students or College staff and not resolved by the instructor and Department Chair also may be referred to the Associate Academic Dean. The Associate Academic Dean will review the matter and recommend action and will inform the student in writing of the recommended action.

Academic Review Committee. The accused student(s) will have the alternative of accepting the recommended penalty or requesting a hearing before the Academic Review Committee. The request for a hearing must be presented in writing to the Associate Academic Dean within five days of receipt of the notice of information.

Dismissal. The Associate Academic Dean will review cases of academic dishonesty and exercise judgment as to whether a student found to be in violation of the standards of academic integrity should be recommended for dismissal from the College. If it is the Associate Academic Dean's judgment that academic dismissal is appropriate, the Associate Academic Dean will notify in writing both the student and the Academic Standing Committee of his or her decision and the factors that influenced that decision.

Hearing. The student will have the option of accepting the Associate Academic Dean's decision or requesting a hearing before the Academic Standing Committee. The request for a hearing must be presented

in writing to the Chair of the Academic Standing Committee within five days of receipt of the Associate Academic Dean's decision.

Other Instances

All forms of dishonesty in academic matters are violations of the Standards of Academic Integrity and are the concern of the Academic Review Committee. Inappropriate actions – for example, lying to College officials or forgery of an advisor's signature – are violations equivalent to cheating and plagiarism in course work. Such dishonesty will be dealt with following the general procedures set forth above. Cases are reviewed individually and according to the circumstances of the violation; possible penalties include suspension or dismissal from the College.

Grade Appeals

Grades are considered to be official at the time they are submitted by the faculty. Questions concerning grades must be called to the attention of the instructor immediately after the official grade report is received. **Formal grade appeals must be submitted within 30 working days of the date on which the grade was issued from the Office of Registration and Records.** An exception to the 30-day time limit requires formal petition to and approval of the Academic Standing Committee.

Procedures for Grade Appeals

If a student believes that a final grade has been influenced by matters **other than** academic performance, class attendance and punctuality in submitting assignments, the student may request an informal conference with the instructor to discuss the matter.

If the outcome of the informal conference is not satisfactory, the student may submit a request in writing for a meeting on the matter to the Department Chair or another faculty member in the Department in instances involving the Chair. For the meeting, the student will prepare a written statement outlining the basis for the appeal.

The decision regarding the course grade in question will be made by the faculty member in consultation with the Chair or the other faculty member in the Department in instances involving the Chair. The student will receive written notification of that decision within three working days. Should the faculty member and the Department Chair not be in agreement and the matter not be resolved at the Department level, both the faculty member and the Department Chair will give written statements to the Dean of Faculty explaining the reasons for upholding or altering the grade. The Dean of Faculty then will review the matter and recommend action, and will inform the student in writing of the recommended action. The Academic Review Committee will hear warranted appeals as determined by the Dean of Faculty.